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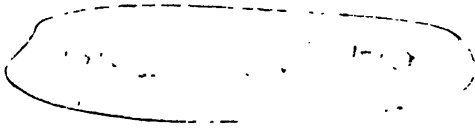
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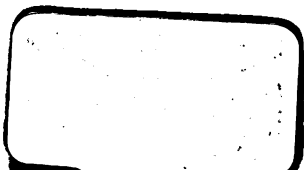
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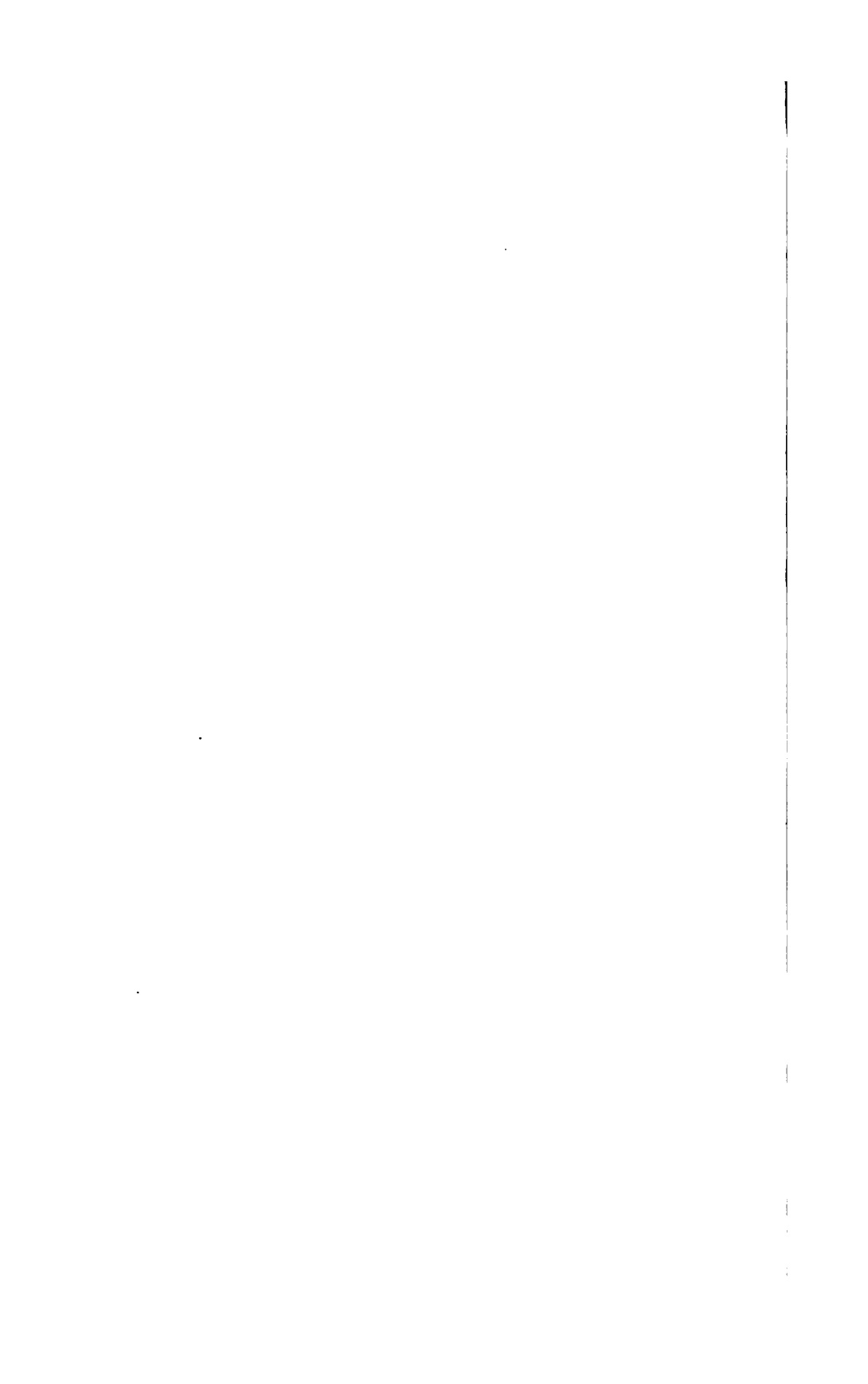
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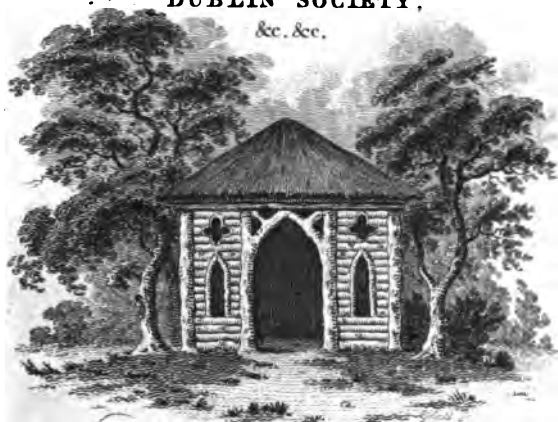




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A  
*Practical Treatise*  
 ON  
 PLANTING;  
 AND  
 The Management of  
*Woods and Coppices.*

By *S.H. Esq.* M.R.I.A. and  
 Member of the Committee of Agriculture,  
 of the  
 DUBLIN SOCIETY,  
 &c. &c.



*Printed by W. Mearns, Dame Street,*  
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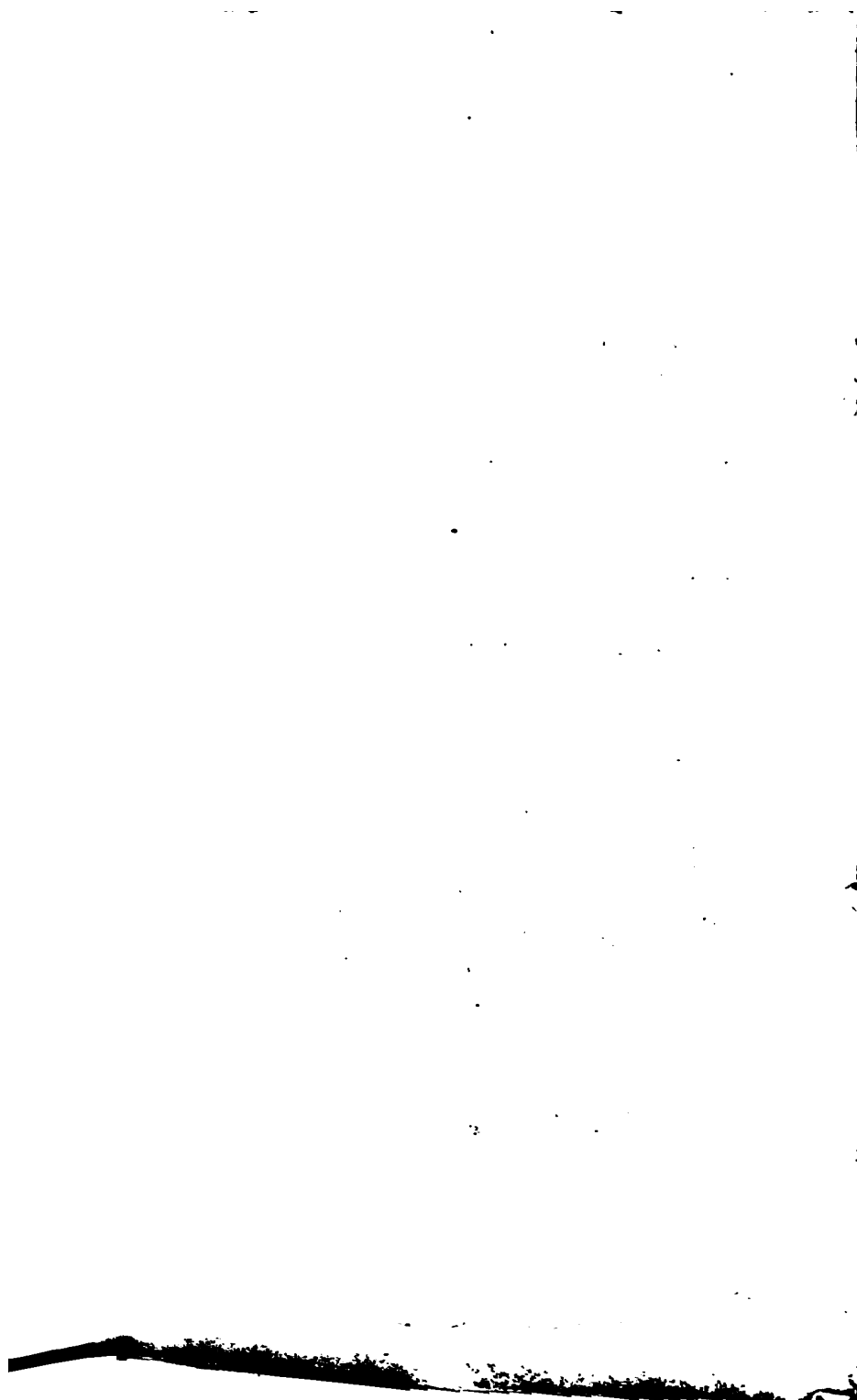


THE FOLLOWING  
PRACTICAL ESSAY  
ON  
PLANTING,  
AND THE MANAGEMENT OF  
WOODS AND COPPICES,  
IS DEDICATED WITH GREAT REGARD,  
TO THE RIGHT HONORABLE AND HONORABLE  
**The Dublin Society**  
FOR THE IMPROVEMENT OF  
HUSBANDRY,  
AND OTHER  
USEFUL ARTS.

*By their most obedient  
And faithful Associate,*

*S. H.*

*Avondale, May 1794.*



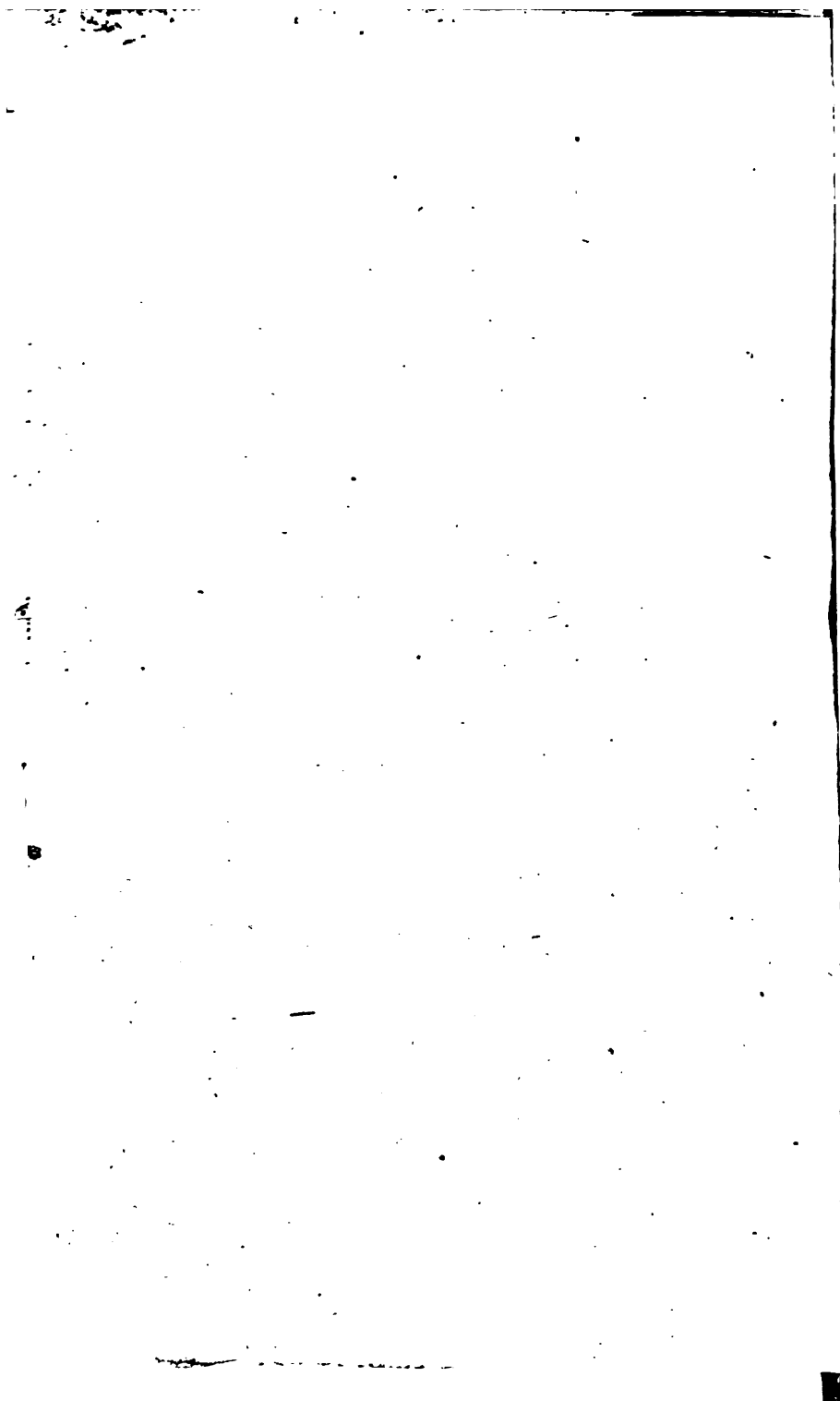
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## P R E F A C E.

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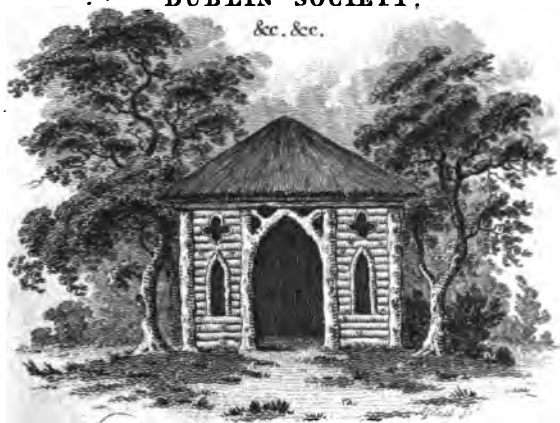
WHEN in consequence of the wishes of several respectable Members of the *Dublin Society*, expressed in terms too flattering, not to ensure an immediate compliance, I undertook to give to the public a Short Practical Treatise on *Planting, and the Management of Woods*, it occurred to me at the moment, that I could not better fulfil the first part of my engagement, than by making a selection of such passages in the most approved writers on the subject as appeared best calculated for the soil and climate of this country; studying at the same time, to reconcile as much as lay in my power, that diversity of opinion, which on many occasions seems more likely to *distract* than *assist* the inexperienced Planter.

They



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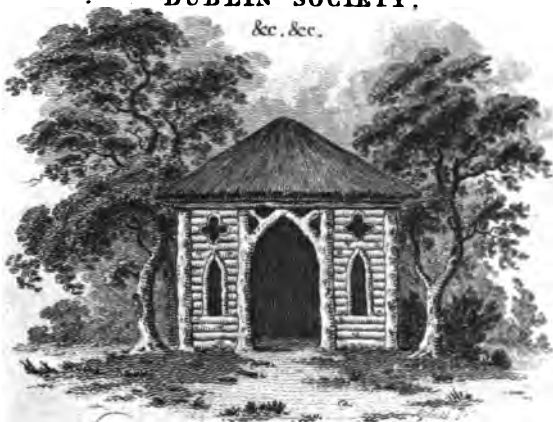
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*PRACTICAL TREATISE*  
*On PLANTING, &c.*

**I** SHALL follow the ingenious and experienced author of *Hints on Planting*, in prefacing all I mean to say on the subject, by calling the attention of the Planter in the first instance to the security of his enclosure. In vain he plants, if cattle can get amongst his young trees; they totally destroy such as are within their reach, and materially injure those of a more advanced growth.

Where we have security alone in view, and a lime and stone wall would not present a disagreeable object, it is certainly the best fence possible; a dry stone-wall, with the upper course laid in mortar, and covered with two rows of turf or fods, the grass side of one turned under, the other upwards, makes a good fence; but as I have found by experience that shelter is in most situations more essential to young plantations than any

B

other

other circumstance, I recommend a stone-faced ditch ; the stones to be laid in mortar, or well bedded with fods to prevent the effect of the air on the roots of the quicks, which should be three year old white-thorn, or crab-tree, laid over the first row of stones. The trench to be sunk about five feet, and made six or seven feet wide. If the ground be inclinable to moisture, fallow cuttings may be planted, as top-sets, crossing each other, so as to form a sort of net-work ; these will soon make an impenetrable fence, and afford great shelter.—Hornbeam is used for this purpose in Germany ; the branches having a little of the bark taken off where they cross each other, and being tied in the form desired, soon grow together, into a continued pallisade—in grounds too poor to support the above, cuttings of elder may be planted in the same manner, and common broom, or French furz-seed, may be sown in a little drill at the back, which will afford useful shelter in a very short time—when quicks are planted in the face of the ditch, it is an excellent method to insert young holly plants at about four feet distance in May or June following ; I should also wish to recommend a more frequent

frequent use of the crab than is generally practiced ; by no means for the purpose of grafting, or suffering them to bear fruit, as that would, in this situation have a direct tendency to defeat the purpose of planting them : but as a strong growing, vigorous plant in many soils, where the white thorn grows but poorly, and especially in a wet strong clay, or in a moor over white gravel, both of which soils seem ill-adapted to the growth of the white thorn ; which ever plant is found to answer it, will be improved by clipping the breast and tapering up the hedge, but suffering the top to grow for a considerable time without shortening. Lord Kaims (who seems to leave nothing uninvestigated, from the formation of man to the growth of a crab) in his Gentleman's Farmer, inveighs strongly against the practice of clipping the tops of young hedges, and asserts, with reason, founded, I can aver, on experience, that trees so used, never acquire equal strength of stem and vigorous growth with those suffered to run for a considerable time without stopping ; as may be seen in those hedges where some thorns have been preserved as *standards*, he



therefore advises our leaving the hedge at full liberty at top, until the stems are about two inches thick, and then to cut them at the height of three or four feet, keeping it afterwards in a taper form, which admits the access of sun and rain to every part.—Anderson in his Treatise on Agriculture, agrees with Lord Kaims; but instead of only clipping the first shoots, recommends shortening all the side ones still as they put out, by which strong spurs are formed, which soon meeting and crossing each other, make a most impenetrable and lasting fence: but this practice would be difficult to adopt in a great extent of hedging.—The English method of plashing, undoubtedly shortens the duration of the fence: where we can wait for the natural strong growth recommended by Lord Kaims and Mr. Anderson, there cannot be a more durable and effective enclosure: but in many situations it may be advisable that the quicks should be shortened when about three feet high, both to prevent the hedges growing thin at bottom; and to take away the temptation of cutting them for flails or walking sticks.—Where hedging is plenty, a  
small

small stake-hedge improves the fence, whilst the young quicks are growing ; but I have generally observed, that few things in husbandry are worse executed in Ireland than dead hedges : the stakes are left irregular, and awkwardly long above the hedge, which affords an opportunity to hedge-breakers to pull them out with facility, and the wattling or lacing which is worked through the stakes is laid *too flat* ; consequently holds water and rots in a very short time : the position of the lacing should be at an angle of forty-five degrees, and the whole made firm and bound down by long twisted binders wrought like the upper rim of a basket ; the stakes should then be driven down again and shortened with a sloping cut, about four inches over the binding ; a stake-hedge made as above, may last five years very well.

Haying thus secured his ground, the Planter should turn his thoughts to his nursery, or other means of procuring his stock of plants ; and here variety of situations and soils, with which the different writers on this subject have been conversant, has caused such a diversity of  
 opinions,

opinions, that the Planter has need of exerting his judgment in deciding which he may adopt with the greatest probability of success.

However respectable the authority of those writers who have recommended the sowing tree seeds, where they are to remain, as the best means of raising valuable timber,—I would by no means have the Planter pursue their advice in a country so much inclined to the growth of grass and strong weeds, as is generally the case in most parts of Ireland.—I am confident, from my own experience, that the decided opinions of Miller, and Sir James Justice, in favour of the above practice, has retarded the growth of many plantations in this kingdom, and deadened the ardour of many a Planter, whose trees would long since have afforded, not only ornament and shelter, but profit, had he taken either Fortescue or Boucher for his guide—though, I allow at the same time, that there may be some situations where partial sowing will be found advantageous—the Planter should have a nursery of his own, if he can command a light mellow soil, on which  
most

most kind of trees may be raised to advantage.

For every species of fir, I think there can be no better process than that recommended by the Author of the Treatise on the *Pinus Sylvestris*, by which he means the Scotch Fir, though properly speaking, it is the Pinafter.

He directs the seed to be sown on beds three feet broad, about as thick as onions, very lightly covered with earth, not above half an inch thick at *most*.—The best way to ascertain that thickness is, after the bed has been made smooth with the back of a spade and the seed sown, to lay on the bed a few small laths, half an inch thick, and then to sift on earth with a fine wire riddle, 'till it comes to the top of the laths.—The whole may then be smoothed and dressed as usual.

If the weather be dry, water the seeds gently with a fine rose.—The ground of the beds should be rich, but not newly dunged, should be rather a light than a stiff soil, by no means exposed

exposed to the sun, nor yet under the drip of trees, and open at least to the North.

When the plants spring they bring up their seeds on their tops, which attract all the birds in the neighbourhood, who would, if not prevented, devour them entirely.—The best way, is to cover the bed with a close matted net.—Nothing farther need be done till the beginning of winter, unless weeding the beds now and then; to prevent the little plants from being forced out of the ground by the frost, it is good to sift a quantity of *saw-dust*, shellings of meal, turf-mould, sand, or ashes, merely a sufficiency to insinuate itself amongst the young plants, about twelve thousand of which may be expected from the pound of the Scots fir seed.—The small twigs or boughs of timber trees, such as elm or beech, spread thick but lightly on the beds, are known to keep out frost better than more solid substances; the method above recommended of sowing fir seeds on beds of no greater breadth than three feet, will be found the most advantageous for all sorts of tree seeds.—They are kept clear of weeds without injuring the young

young plants, and in taking them up for transplantation, the whole roots may be raised together from the bed by two spades opposite each other, without injuring a single fibre; the quantity also which will stand on such beds, if properly sown, will not be too great so as to mildew, or cause the seedling plants to be too much drawn up: On the other hand, I have found single drills, though recommended by many books on the subject of planting, to be liable to great failures, from being too much exposed to sun, wind, and cold.—I would, therefore, sow all tree seeds on small beds, and if they come up too thick, thin them with discretion the first year.—Those which are thus taken out, may be pricked into other beds, and will in two years be fit for planting out.

The seeds should be covered with fine mould, pretty much in proportion to their size, the smallest requiring about half an inch, and the largest, such as the walnut and chestnut, from two to three inches, according to the nature of the soil; but if it were not from an apprehension of injury from mice, birds, &c. I think it much

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better

better to give rather a light than a deep covering.—It is more agreeable to the process of Nature, where the acorn is often found, vegetating with vigour on the surface of the ground, and by this means, more soil is afforded under the plant for the expansion of its roots, on which so much of the Planter's future hopes depends, that he had much better give up the thoughts of raising seedlings, and purchase what he may want from a nursery man, than attempt it on a stiff clay or poor hungry gravel. This I can assert from many instances within my own knowledge; and so far are the best modern practitioners in planting, from co-inciding with the long-received opinion, that a nursery ought to be on a poorer soil, than that which is designed for the plantation; that Kennedy is confident, every nursery-man in England will join him in opinion, of the propriety of having trees raised in ground equally good, at least if not *better*, than that on which they are to be planted: and contends, that for different purposes, which we shall state hereafter, the nursery cannot be made too deep, nor be too well prepared.—Boutcher, who allows the specious appear-

appearance of the theory, and had continued the practice for some time himself, says that he found, from repeated experiments, the bad effects of committing young and tender seedlings to poor ground ; and insists on the absolute necessity of their being nursed in a generous soil, in order to promote that vigorous growth, which alone can enable them to struggle with the inconveniencies they may be subject to at a later period : from my own experience, I have known trees which had been transplanted from a poor nursery in which their bark had been hardened, to remain for years at a stand until they were cut to the ground, and had then, as I may say, received a second birth ; whilst the fir from the same nursery, which could not be cut down, though they continued to grow ; yet by their slender stems in proportion to their height, and a certain blackish hue, have evinced for many years the injury they sustained in the early part of their growth ; in fact, the success of a tree when transplanted, depends on the goodness of its root ; or in other words, on the quantity of fibres, which open as so many mouths to suck in nourishment ; some of these



fibres must be lost in transplanting ; and that soil which produces the most of them, promises the least check to the tree on its removal.—The richest and mellowest soil, is undoubtedly most capable of producing vegetation, and consequently furnishing the most fibres ; this will appear most strongly, if we apply to analogy, is not the best fed calf the most likely to make the largest bull ?—Is not every animal the hardier and more capable of labour, when grown up, for having been plentifully and vigorously nourished in its infancy ; let not the Planter then be afraid of making his nursery rich by any strong manure he can compass ; I should wish my nursery to be rich enough to produce cellery without dung, and deep enough for liquorice.—A mistaken notion has prevailed, that a deep soil makes the roots too deep ; but experience shews, we have nothing to apprehend from this circumstance in young trees, and frequent transplantation prevents it in those of an older growth.

I recommend frequent digging the ground near the plants in the nursery ; it operates on  
the

the root, as clipping does on the branches of a hedge : it thickens and encreases the fibres near the main stem, and forms them into a compact ball for transplantation.—As to the depth it should be prepared to, that depends on the purposes for which the plants are wanting, viz. nine inches deep for trees to be transplanted in the nursery, and nearly double that depth for those that are to be planted out at once from the *seed bed* to where they are to remain, in order to gain that extension of root so essentially necessary for the success of the Planter on *shallow* soils : Kennedy considers this so material an object, as to be surprized that the raising of trees for this purpose, has never been made a distinct article in the nursery business—hence it follows clearly, that the directions for the preparation and management of the nursery must depend in a great measure on the nature and situation of the soil to be planted, which may for the sake of order be considered in general under the following heads :

1st. Lay

1st. Lay ground or tillage land of a sufficient depth to bear trench plowing, but in a bleak exposure.

2dly. Natural woodland amongst shrubs and thickets.

3dly. A fertile soil, with good shelter.

4thly. A dry shifting sand.

5thly. A shallow stoney or moory soil.

6thly. A deep, dry, or heathy moor.

7thly. Actual red bog.

I shall say something of the management of the nursery for each of the above purposes; and after a few observations on the manner of pruning trees for transplantation, and the best method of conducting the business of planting in general, proceed to consider the above heads separately, and give such directions as result from my own experience, or have been recommended

commended by the best practical writers on the subject.

For planting under the four first heads viz. *lay ground, in a bleak exposure—in woodland—on a good soil with shelter, and in a dry shifting sand*; the management in the nursery may be pretty much the same, with this difference; that for the first and last of these heads, the shortest and stoutest bodied plants must be chosen: whereas in a good soil well sheltered, plants of a larger size, and which have remained longer in the nursery, may be safely planted; and in woodlands, amongst a thicket of hazel, thorn, &c. still taller plants, and even those which have remained in the nursery, to a size which would render their removal in any other situation very precarious, may here be ventured out with the utmost probability of success.

The plants for all the above purposes, should be pricked out from the seed bed, upon small ridges or beds about three feet broad, three rows in each bed, at a foot asunder, which will give the nursery-man an opportunity of under-cutting

ting the roots of the *deciduous* plants with a sharp spade, at about eight inches under the surface, the year after their first transplantati-on—in these beds, if they remain two years after this operation, they will form such a matt of fibres, that they may be removed with the greatest certainty of success, to any ground deep enough to receive their roots, which at the same time, will be of such a weight as to balance their heads, and keep them upright with little or no trouble; a matter of no small moment in open grounds, especially such as by tillage, or other preparation, have been brought into a state sufficiently mellow for the reception of the plants.—There cannot be a better method than the above, for all deciduous trees, except oak, Spanish-chestnut, and walnut, whose treatment I should wish to vary so far, as not to subject them to a second removal; but would sow the acorns, chestnuts or walnuts, about four inches asunder, on little square seed beds, about four feet broad; and the second year would undercut them as above, about a foot below the surface; from thence they may be removed at four years old, with nearly all their roots, will suffer  
very

very little check on removal, and if they like the under stratum of their new situation, will in a very few years make as strong and penetrating tap roots as if they had been sown there, with the additional advantage of having at the same time vigorous lateral ones; where *timber* is the object, I strongly recommend the above practice, but where the *fruit* of the Walnut or Chesnut is in contemplation, &c. they should be transplanted two or three times at least in the Nursery previous to their final removal.

For a *shallow thin soil*, whether *moory or rocky*, Kennedy recommends three year old plants from the *Seed-bed* out of a deep well prepared Nursery; taken up with all their tap roots and every fibre possible; and as Mr. Fortescue for planting in *red bog*, advises the placing the extremity of the tap-root in a little cleft in the end of a stick, and thus inserting it in a hole previously made with a crow or stake, pressing the ground close to the root with the foot, it is obvious that plants for such purposes, ought to be *seedlings* raised as before in a Nursery which has been *trenched* and well prepared to a *good depth*.

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Thus

Thus for the production of plants for every soil and situation, a fertile well prepared Nursery will be found the best; but with this difference, that in general it is to be made *deep-est* where the plants are intended for a *shallow soil*: this seeming contradiction will be explained when we come to the different methods of planting in different situations.

As to the pruning of trees at the time of transplanting, it is difficult to give general directions; ever-greens certainly should not be touched with the knife, except where a root is greatly bruised or torn which had then better be cut off, or where a long stubborn tap-root prevents the tree settling well in the ground; in which case a nick half through with the knife, gives an opportunity of bending the tap-root horizontally, which will then throw out strong shoots both from its extremity and from the spot immediately above the incision: I prefer this to cutting off the tap-root as is generally practised; as to the lower branches of Fir, they should never be pruned off at planting; those close to  
the

the ground may be of material use by throwing a few shovels of earth over their extremities and pinning them to the ground in the nature of laying, which will keep the plant steady until the tree has taken to the soil; but then the branches should by no means be suffered to take root. Deciduous trees of any size should be pruned in the Nursery if possible, a year before transplanting; in general a young tree should be encouraged in its lateral branches, and at the time of planting the great ones only should be shortened, leaving the small ones on, which will detain the sap in the stem and prevent the tree from being too much drawn and top-heavy; the best form of a well pruned tree being that of a cone or nearly the natural form of a *Fir*, it thus becomes more steady against the winds, which do more mischief to young plantations in Ireland, than frost, drought or any other circumstance.

The Beech is mentioned by Boulcher as an exception to the above method of pruning; and considerable experience has confirmed me in the truth of this remark, that the less wood is taken



off a Beech at the time of transplanting, the sooner it recovers the removal ; when once well established, it will bear the amputation of limbs, which would have caused a canker in the stem immediately above the wound, had it been done at the time of transplanting ; it is an inattention to this circumstance which has given Beech the character of a difficult tree to transplant ; however, care should be taken that there are not two leaders left on, and where such a second leader proceeds from the middle of the tree with a stem nearly equal to that which you wish to stand, the best way is to cut it off *close* if under an inch diameter ; if over that size just above a small branch at six inches or a foot from the principal stem ; this will prevent the danger of a canker, and is in general the best way of cutting off strong branches if not done the year before removal, when they may, and indeed ought to be cut *close to the stem*.

In recommending the foregoing rule for *pruning* in preference of that given us by Mr. Speechly who from his practice at Welbeck directs us to cut off all the branches from the stem for  
half

half way up and to shorten the whole into a piramidical form, I differ from so eminent a planter with great deference, but I prefer leaving more of the lower branches at the time of planting from having frequently observed trees which were treated in any other manner to encrease considerably in their *heads*, whilst the *stems* not only continued at a stand, but became hard and hide-bound and required to be slit down the bark with a knife, which the gardeners usually term *bleeding*, before they recovered their vigour, when the tree is once established and in a thriving state, the bottom branches should every year for some years, have a tire or more pruned off, which will not only contribute to the beauty of the tree, but greatly improve the future timber.

Where the extremities of the roots are bruised in removal, they should be taken off with a sloping cut with the face downwards; in general the less the *root* is pruned the better; but if large bunches of matted fibres have been suffered to dry in the air on taking up, they should be cut away or at least shortened as otherwise

wife no new shoots will be produced from them; and from this circumstance, I venture to caution the Planter against relying too implicitly on the receipt for removing large trees given by *Evelyn* and others, however specious it appears in theory, viz: cutting the tree all round and filling the trench up, and so leaving it for one year before removal: I can say from my own experience on many beech trees so managed, that those of the same age and upon the same ground, which had been removed *at once* without such preparation in a very few years far surpassed them; the great masses of tufted fibres which were carried to the new ground in the former method growing mouldy and rotting away, and the roots which had supplied them the year before not being in condition to throw out new ones; whilst those trees of about twenty years old, which were taken at once to their new destination, produced healthy fibres which soon became vigorous roots—if a Planter wishes to try *Evelyn's* method, he should by all means let the tree stand *two years at least* after cutting the roots before it's removal, *at which time* he may prune off the smallest fibres

fibres of the last year ; and carry only the more hardened and woody part of the roots to the new site.

Beech and fycamore were the trees on which my experiments were made; perhaps oak, as having naturally fewer fibres, might have answered better in the method recommended by Mr. Evelyn.—Too much care cannot be taken to prevent the effects of drying winds and frost on the roots of trees, at the time of taking up and transplanting ; a tub of water thickened with earth to the consistence of cream, should be ready to receive *seedling plants* by all means, and most others, in general as they are taken up ; and close boxed carts should be prepared for larger trees, in which they may be placed *perpendicularly* on the bottom of their roots ; many trees are spoiled by carrying them horizontally, one side of the root is generally broken to pieces, and the cock shoots of the fir are injured in taking them out of the cart in that position ; the more hands, and the abler the men employed, in taking up trees of every size out of a nursery, the safer they will be got up.

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When the ground is once opened, a strong steady pull will raise a tree, with nearly all its roots uninjured; but if there is not strength sufficient for that purpose, the roots are shortened, and often cut to pieces with the spade, to facilitate the removal.—In carrying on a large plantation with effect, much depends on the method of arranging the workmen: that which is given by Mr. Speechly, in his Description of the great Improvements by planting at Welbeck, appears to be made with much judgment; he divides his workmen into four classes, viz. *takers-up*, *pruners*, *carriers*, and *planters*.—Soon as the plants are taken up he beds them in the ground in the following manner; a trench is opened at least fifteen inches deep, and the young trees laid in with their tops assant, covering their roots well, and half way up the stem with the earth that comes out of a second trench, which is filled in like manner, and so on, till a sufficiency are taken up for the present occasion.

In a light soil, this trouble is but little; and by it they are secured both from the danger of  
their

their roots drying, and their suffering by frost : they are carried in a low-wheeled waggon from the heaps where they have been bedded, to the pruners ; when they arrive, the planters and pruners assist to bed them there, in the same manner as before described ; there is a portable shed for the pruners to work under, which is also convenient for the rest of the workmen, as a shelter in stormy weather ; from the above heaps the plants are taken only, as fast as they are wanted for the pruners ; whose work is performed as before mentioned, with an attention at all times to plant with as much roots as can possibly be kept on : as soon as they are pruned, they are taken to the planters by the carriers, who are generally a set of boys, or the worst of the labourers.—The planters go in pairs, one makes the holes, and the other sets and treads round the plants, which work they generally perform alternately.

Though Boutcher prefers spring for planting every sort of seedling ; he allows he has had great success in planting fir of all ages early in *August* ; and strongly recommends a trial of

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this practice.—It is not indeed an easy matter to ascertain the best season for removing of trees, so much depends on the nature of the soil and situation.—In stormy situations I prefer planting in spring: but trees planted at this time will require more watering: in general, we may say, that with few exceptions (amongst which, I think the ash is one, which though apparently a very backward tree, seems to be injured by removal late in spring) all the deciduous trees may be planted in any month between October and their time of shooting into leaf; and Millar, in his early editions, mentions the beginning of May, as the best time to plant oak.—Boutcher and Lord Kaims agree with him; and I have followed that practice for several years with such great success, that I venture highly to recommend it.

Out of some thousand oak, transplanted the second week in May, from a seedling-bed at Mr. Edgar's nursery near the Foundling Hospital, where they had stood in that rich soil 'till above four feet high scarcely one failed though carried thirty miles to a high situation in the  
county

county of Wicklow ; they were transplanted in the year 1778, and are now, in 1792, above twenty feet high, and thick in proportion.

Larch is another exception to autumn planting ; the most experienced writers, recommend planting them just as they push out in spring.—Ever-greens in general may be planted from the beginning of April to June, and some kinds, as the holly, still later ; I have planted them with success at Midsummer.

There is some reason however to think, that laurel and Scots-fir are exceptions, the latter of which, from repeated experiments, I would not wish to plant after the month of March, whilst the former may be safely planted in November ; or even the beginning of December, when the weather is soft.—Perhaps on the whole, we shall find, that the best general rule we can establish for removing *evergreens*, is to transplant either *early* in autumn, or when their buds begin to shoot in spring.



In every young plantation, if there is not a natural growth of thorn, hazel, &c. several lines of broom should be sown for shelter, the cost is little, and the effect in preserving the plants from the wind is very great.—Most deciduous trees are apt to lose the sapiness of their bark on transplantation; and I have found it of great use when I did not cut them down the second year, to draw a line as before mentioned, with a sharp knife through the bark from top to bottom, so as to let the tree spread, and prevent its being *hide-bound*.

I shall now proceed to give particular directions for planting, suited to the various soils and situations, as before specified, and first,

*For lay-ground or tillage-land of a sufficient depth, to bear trench-plowing, but in a bleak exposure.*

The experienced author of Hints on Planting, gives the best directions for the preparation of such ground by trench-plowing; which is to be done by a second plough following in the furrow made by the first, going as deep as possible,

possible, and with a higher mold-board, throwing the earth over the first turned soil.

If the ground has been ploughed out of *the lay*, it must continue in the above situation for some months; by which time the turf at bottom will be rotten: it should then be cross-ploughed, and the deeper and finer the tith is made, so much the better, for every successive operation.

In good land thus prepared, almost any mode of planting may be adopted with success; but as such preparation generally implies a smooth open surface, and consequently little shelter; strong plants about five years old, and which have been transplanted two years before in the nursery, are best suited to the purpose — Their height will be such as to escape injury from those strong weeds which such a soil and preparation must naturally produce, and the size and weight of the roots will keep them steady and upright, without staking or banking, which is a material circumstance in a plantation of any extent.

If

If trees of the above description cannot be easily procured, the taller evergreens may be assisted, by covering a few of their lower branches with earth in the manner of *laying*, as before mentioned, and the deciduous trees, (beech and walnut excepted) should be cut close to the ground, with a smooth sloping cut; this advice of Mr. Fortescue's he supports from his own experience, and asserts, that the first year's shoots have frequently exceeded four feet,

Mr. Fortescue's practice however, was in general, on ground pretty much covered with hazel and thorn, but where we are entirely destitute of shelter I would advise a mode recommended above one hundred and twenty years ago, by Smith, in his *England's Improvement*, in which he advises the laying of all deciduous trees sloping on the turf or sod, turned over as usually done in marking out our quickset fences, covering them with the next spade of soil; and sloping the bank which is laid over them down to the next row of plants, in order to conduct the rain to the roots; the rows should stand so as to give the young plants the most effectual shelter, and the heads

heads of the sets should be cut off at the time of planting, as we do our thorn quicks, from whose free growth when thus managed, we may safely adopt the practice, where the nature of the trees and exposure of the situation would render them liable to be shaken in the ordinary mode of planting.

In less exposed situations, I should wish to defer cutting them down till after one or two years growth, when there cannot be the least doubt that the trees so managed, will in a very short time far excel those left standing.—For this purpose, the Planter should often visit his plantation, and when he sees a tree dead at top or hide-bound, he should cut it down within six inches at most of the ground; and where many shoots spring from the same root, all should be cut off but the strongest, and the dead wood of the old stock cut close to the young shoot.

If the land *be a stiff clay*, it may be much Improved by sand or lime, and when thus prepared there cannot be a better soil for *orchards*.—The finest in Worcester-shire and Hereford-shire  
are

are on such soils ; the former of these counties has long been famous for its cyder, particularly that called *Styre*, from an apple of that name, which grows better in the forest of Deane and its vicinity, than many other parts of England.

This apple is said to have been originally brought from Styria near the Tyrol, and is supposed to produce the highest flavoured cyder, when planted on a soil which contains a mixture of Iron Ore, as it generally does in the forest of Deane. We have large tracts of such soil in Ireland, on part of which it might be worth while to make the experiment ; but we can never hope for a good orchard from the practice too commonly adopted, of planting large grafted apple trees on a bleak exposure.—We should plant in the first instance, as Mr. Fortescue with great judgment advises, four or five years old crab quicks or wildings (the former however are much the best,) in those spots where they are to remain as the principal fruit trees of the future orchard.—They should then be cut down and grafted or inoculated in a few years, on the young healthy shoots from the best sorts of fruit trees.

trees. When the real crab thus grafted comes into bearing, it may be expected to continue in perfection for more than a *century*, in the mean time an immediate supply of fruit may be obtained, if the orchard be well sheltered, by planting in the intervals dwarf apple trees, on *Harlem stocks* or *pitchards*, which are truncheons made of the bearing boughs of such sort of apple trees chiefly, as throw out round the lower parts of their branches, a sort of burr or excrescence, very much resembling the burrs of a deers horn, where it joins the head, on which part of the branch a strong fibrous root is speedily formed.

The celebrated Irish cyder apple, called the *Cacagee*, grows very well when planted in this manner, as do several of the best cyder fruits on the banks of the Black Water in the county of Waterford; but it should be remembered, that trees thus raised, as well as those grafted on *dwarf stocks*, though they come into bearing very soon, are of very short duration, we should not only take care to have a succession,

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but we should perpetuate the best fruits, by grafting them from time to time on the crab stocks in the orchard, a sufficiency of which should be ready trained up to single stems for that purpose.

We have many places in Ireland, which, though not suited to the apple, would answer the pery pears to the utmost of our wishes; but in this case, we should be attentive to the kinds we plant.—Those called in Hereford-shire, *Taunton Squash* and *Beisbury*, are the pears most approved of for making pery, which I have known to be sold in the neighbourhood of Ross, in Hereford-shire, for ten guineas the hoghead by the maker, and that to the amount of fifty hogheads, all the property of one person.

It was with this sparkling beverage that the amiable Kerles of Ross, in Herefordshire, better known as immortalized by Mr. Pope, under the name of the *Man of Ross*, used to treat twelve of his neighbours at dinner every Thursday,

day, selected indiscriminately from the gentlemen and farmers who attended the market of that town.—The general communication on subjects of agriculture, &c. which naturally resulted from such a meeting was of advantage to both parties, whilst he afforded in himself an example of every social virtue.—Though liberal to magnificence in the execution of several public works, for the advantage and ornament of the town, many of which still remain, he was so plain in his manners, and frugal in his expences on *himself*, that he was enabled to extend his charity to a degree which has since become proverbial, and to give this constant weekly entertainment to all his neighbours in their turn; at which time his table was covered with all the best productions of Herefordshire, and the neighbouring counties; but no foreign wine or spirits were ever allowed to appear, their place being amply supplied by fine beers, Redstreak and Styre cyder, and particularly by Pery of a quality little inferior to the best champagne.—Some of this kind I tasted in his own parlour at Ross, when on a tour I made a few



years since, through the cyder counties, on purpose to gain information on the subject of orchards.—His house was then converted to a well kept inn, from the master of which, a very well informed man, and the curate of the parish, who dwelt with rapture on the memory of Mr. Kerles, I obtained the above particulars, as well as some useful hints on cyder and pery.

The pleasure and advantages arising from plantations of other species of fruit trees beside the apple, seem to have been much better understood in the last century than in the present; many of the writers on Rural Œconomics of those days, dwell with such heartfelt satisfaction on the directions they give for laying out and planting their “ *Labyrinths of Sweets,*” and “ *Paradises of Content.*”—That notwithstanding the formality of their arrangement, even a fastidious Modern Improver might be tempted to take a morning walk in them, in order to enjoy “ the verdant carpets” they describe, “ bordered with the primrose and  
“ the

“ the violet, and all the pride of spring, be-  
“ tween the woodbine hedge, and fragrant eg-  
“ lantine, sheltered by the filbert, plum, quince  
“ and medlar, or shaded over by the lofty wal-  
“ nut, chestnut, or cherry tree.

“ *On whose sprays,*  
“ *The Thrush chaunts his roundelays.*”

This decorated walk which is recommended to the good *husbandman*, in many authors of the last age, and differs very little from the modern shrubbery, except in being formed of straight lines, and invariably bordered with trees which were planted for *use*, as well as *ornament*, was generally carried round a considerable piece of ground, which contained the orchard properly so called, the garden for esculent plants, and usually several ponds for fish and water-fowl.

And perhaps on the whole, a few acres could not be more agreeably or advantageously disposed of, especially as such an improvement is within the compass of many who could not afford the extent of ground, and other expences attending the practice of modern ornamental gardening.

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The great longevity and stately growth of the walnut, chefnut, and wilding cherry, entitle them to the first rank amongst timber trees; but in order to improve their fruit, they should certainly be grafted or inoculated: this appears to be the constant practice abroad, and I have reason to think, that the difficulty we find in the process here, arises from the gardeners making use of loam or clay, in place of a strong *grafting wax*, which I have observed has been applied to all the grafted nuts which are brought from Holland.

In planting forest trees, the oak, walnut, Spanish chefnut, elm and ash, should be our principal consideration, which may be planted at about twenty feet asunder, avoiding straight lines, for many reasons; the plantation should then be thickened up with any other sort of trees; placing Scots fir and beech in the most exposed situations, except in the neighbourhood of the sea, where the sycamore is observed to stand its effects better than either of the above.

Hazel

Hazel nuts, and the seeds of Liburnam, Portugal, Spanish, and common broom may then be scattered through them ; and juniper, holly, and laurel planted towards the front, and near the opens and walks, which will be at once very ornamental ; and afford good cover for game.

For planting *in natural woodland, amongst shrubs and thickets.*

It has before been observed that the tallest and weakest bodied plants may be selected for that purpose. In the spaces which they may fill amongst the shrubs and under-wood, they will certainly succeed, and make good trees, if taken up with roots proportioned to their size, and planted with care.—Experience has proved, that where hazel and white-thorn grow with vigour, almost every species of forest tree may be planted to advantage : it will only be found necessary to prevent the branches of the shrubs from over-topping, or interfering with the young shoots of the plantation, and paying a proper attention to keep the plants from being top-heavy ;

heavy, as they are more apt to be in this situation than in any other, and generally exhibit such marks of luxuriant health, as appear extraordinary to those who consider the neighbouring shrubs as likely to draw all the nourishment from the *forest-trees*; but as Fortescue justly observes, Providence has wisely scattered the food of each plant over the surface of the earth, so that many trees of *different species*, will grow well in an acre of ground, where the same number of *one kind* would actually starve for want of nourishment; and we have only to view a grove of the last age, consisting of one species of trees, to be convinced of the inferiority of each tree which composes it, to one of the same age growing amongst plants of different species, though equally close and numerous.

The holes should be made amongst the shrubs, from eight to twenty feet asunder, as an open offers.—In this unwrought soil they should be considerably larger than the roots designed to be planted in them, in order to give room to the young fibres, and if made  
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some time before the planting, so much the better.—But the good soil, after being chopped and broken fine, should be returned *into the holes* : for if left on the edge till the planting season, as is usually done, the *finer parts* will be washed by the rains into the ground, or lost amongst the grass and leaves, so as very much to retard the progress of the Planter.

For making holes in *wood-land*, a long bladed hoe, with a narrow axe on the other point, will be found to be a very useful instrument, as here the roots of hazel and thorn are continually crossing the spots where the holes should be made.

What we thin out of our plantations of six or seven years growth, tho' much drawn up, may be planted in this ground with great success.—They will here recover strength and a proper form.—I have known larch, which had been apparently dead for some time, of a dusky lead colour, and broke off by the cattle at three feet from the ground, where they were about an inch and a half diameter; on being removed

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into a hazel coppice about twelve years ago, not only to recover their natural colour, and make new leaders, but become most beautiful trees, and are at this time, above thirty feet high.

When we have not the advantage of *natural wood-land*, but possess a *good soil* and *strong land shelter*, well furnished plants either from a nursery, or the thinning of plantations, about five or six feet high, may be removed with success, and even those of a larger size, if sufficient care is taken to raise them with as much roots as possible, and carry them without injury to their new destination.

For this last purpose, there cannot be a better machine than that first introduced into this kingdom by Mr. Robinson, a Scottish Engineer.

It consists of a pole about fifteen or eighteen feet long, divided at the stronger end into two branches, which are morticed into an axle-tree, over which a piece of timber is bolted, about a foot high, with a hollow on the upper

per part six inches wide and four deep, which should be dressed very round and smooth ; to this axle-tree, which must be seven feet long, a pair of high and very strong cart-wheels are occasionally fitted.—The hollowed piece of timber, being first well covered with straw or a mat, is then applied close to the trunk of the tree ; and the pole, which will in this situation lie up the stem, is to be tied close as possible along it, putting straw between the bark and the cords ; the roots having been previously cut round, about three feet from the trunk on every side, to the depth of the under fibres, and a rope applied to the top of the pole ; the latter is drawn downwards, and with it the stem of the tree, which consequently forces up the *whole root* from its under bed with all its fibres, and leaves it hanging on the axle-tree between the wheels ; it is then drawn with the root foremost over the hole designed for its reception, and the pole being freed from the stem, the latter regains its natural position, and the earth being carefully laid about, and inserted with a blunt pointed stick, amongst the roots, and the whole well



watered, the tree will scarcely exhibit the least mark of removal in the second year.

It is evident that this machine not only accelerates the taking up of large trees, but carries all their roots without injury; which is seldom the case when they are obliged to be brought any distance in any other manner of conveyance; and as this machine will also be found of the utmost service in rooting up such trees as a Planter may wish to remove, without an intention of planting again; but where the roots would prove injurious or disagreeable if suffered to remain in the ground.—I annex three explanatory drawings, and will venture to assert, that with a little attention to *Boutcher's* advice of twice transplanting, and digging round the roots in the nursery, trees may be thus removed of such a size, as will afford, not only immediate decoration, but considerable shelter; it must however, be always remembered, that a great extent of plantation can never be effected with the waste of time and expence of labour, which such heavy operations require.—They are only suited to the gratification

tion of a Planters wishes in particular instances—from such you can indulge but slender expectations of future fame, as an improver of your country—a few dotting trees will never change the face of an extensive tract of naked ground ; in such situations,

“ *Rich the robe,  
And ample let it flow, that Nature wears  
On her thron’d eminence : where’er she takes  
Her horizontal march, pursue her step  
With sweeping train of forest ; hill to hill,  
Unite with prodigality of shade.*”

MASON’S English Garden.



*Phall, Sculp*

PLATE I. *Figure 1.*

*Shews the pole divided at the end, and inserted into the axle tree, with the hollow'd piece of timber over it.*

*Figure 2.*

*Represents the machine brought close over the root of the tree, and the pole tied up along the stem.*

*Figure 3.*

*Shews the manner in which the root will fit between the wheels; when the pole has been drawn down, the little wheel behind may be used by inserting its frame into the pole, as the single wheel of a plough usually is done; but except for very large trees, and such as are to be carried a considerable distance, there is no occasion for this third wheel.*

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For the fourth division of soils: viz. *a dry shifting sand*: the plants should be no higher than barely to escape being covered with the drifts.—On such land, strong weeds do not abound, and the sooner the plant is enured to the soil after the seedling fibres attain a reasonable firmness, the better chance of its succeeding: we cannot assist its growth by stirring the ground in this drifting sand; for as the fault of the soil is want of cohesion, it is not adviseable to dig amongst the trees when once planted. The holes should be made at the time of planting, and if the expence would not be very great, a cart of mold should attend the operation, and another with water; and when the holes are half filled up over the roots, some water should be poured on, and the remainder of the earth and sand thrown in.

Though such a driving sand seems the least likely of any to gratify the Planter's wishes, we have several instances of its producing a great growth of timber.—Mr. Speechly describes those very successful plantations of the Duke of Portland at Welbeck, to have been  
made

made on such a soil, which he says is called in Nottingham-shire, *Forest-lands*, being a continuation of hills and dales, covered merely with a mixture of sand and gravel, the hills abounding mostly with the latter, and the vallies with the former; as the smaller particles are by the wind and rains brought from time to time from the high grounds to the lower.

In a well sheltered part of such a valley, the nursery is formed, which is to supply plants for a considerable tract of the surrounding hills.—The plants raised there for that purpose are oak, beech, larch, Spanish chesnut, Weymouth pine, and all sorts of fir, (the Scots excepted,) together with some inferior sorts for the purpose of shelter, amongst which, the birch is most prized.

The quantities raised on these sandy valleys at the Duke of Portland's must be very great indeed, for the supply of such extensive tracts of plantation, from sixty to a hundred acres being often planted, as Mr. Speechly states, in one season, and that considered only

as a part of one design for clothing the great chain of hills above described.

The land intended to be planted, is well ploughed and manured with lime, about twenty-four barrels to the acre, for a crop of turnips: when the turnips are eaten off, the ground is ploughed with a trenching plough, to the depth of twelve inches.—This deep ploughing is of the utmost service both to the future growth of the plants, and to the ease of carrying on the operation of planting.

The manner of disposing the trees in the plantations at Welbeck, depends much on the particular shape of the part to be planted; and on the taste of the person employed at the time.

Between the hills towards the outside of the plantation, ridings are frequently left from sixty to a hundred yards in breadth; which are contracted towards the middle of the woods to ten or twelve yards: on the tops of the hills, where

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there are plains, lawns are left of an acre or two in extent, which form a pleasing variety ; in some of them cedars of Lebanon are planted at irregular distances to form hereafter an open grove.—This tree seems peculiarly adapted to this light moist land ; on the outsides of the plantation next the ridings, evergreens are scattered profusely, hollies, laurels, yews, junipers, &c.—Sometimes each sort by itself, and at other times intermixed, but, always so as to avoid the appearance of a regular edging, now and then a rare foreign tree is introduced, such as the Virginian julip tree, &c. &c.

When the ground is laid out into quarters for planting, certain parts are assigned to beech, larch, Spanish chesnut, &c. which are introduced in irregular patches, through the plantations, with an excellent effect, from the diversity of shades, especially in those parts of the forest, where four or five large hilly points meet in the same valley, and tend, as it were to one center.

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In carrying on the work of planting, the largest trees of every sort are got in first; were they to proceed otherwise, the making a hole for a large rooted tree, after the small ones were planted as thick as they ought to be, would cause great confusion.—Birch is generally the tree to begin with, as it bears removal perfectly well. At the height of six or seven feet, of those, or rather of a less size, three or four hundred are planted on one acre; and nearly the same number of their first sized oak; then the masses of larch, birch, and Spanish chestnut are got in; and some of a smaller size of the same species are inserted through the whole: then a number of smaller sized oak, and lastly, these are thickened with small seedling birch, the whole made up to about two thousand plants of different sizes and ages to the English acre, great care being taken, that they are as free from straight lines and regularity as possible, both to give a natural air to the plantation, and to avoid the effect of penetrating winds.

When the planting is finished, a considerable quantity of acorns, keys, and mast, are insert-

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ed in short drills of two or three feet in length amongst the young trees, which in some situations may be considered as the most certain source of a good growth of timber.—This leads to the progress of their oak at Welbeck, of which Mr. Speechly gives two instances, one of twenty-eight, the other of fifty years growth; in the former they are about twenty-six feet high, and about eighteen inches round: in the latter they exceed sixty feet, and are somewhat more than three in circumference; but are very long and fair in the bole, without knots or lateral shoots, from their having been at first thickly planted, and regularly thinned only as they required room.

In addition to this satisfactory account from Mr. Speechly, we have the experience of the late Duke of Cumberland on Bagshot, as an encouragement to the owners of sandy gravelly wastes—here a loose red sand, or hard whitish gravel and spar, seemingly a decomposition of manganese and granite, mixed with a small portion of black turfy mould formed the whole  
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of the soil of that great tract, which he speedily covered, not only with fir of various kinds, but with Spanish chestnut, laurel, *lignum vitæ*, juniper and other ever-greens and shrubs.

The next division, viz. *the shallow rocky soil*, is peculiarly adapted to improvement by plantation, which will be found to be not only the most pleasing, but the most æconomic measure we can adopt.

For the better carrying the Planter's design into execution here, I shall follow *Kennedy*, who seems to have had great experience on such soils.

As it will be necessary to plant in every spot where a little earth can be got amongst the rocks, he recommends the use of light long bladed hoes, with a pick on the other end : with the broad end, or a sharp narrow spade, the turf should be pared off as thin as possible; with the narrow end, the ground must be picked up about six inches deep; taking out such stones as the hoe loosens, for the space of about two feet diameter,

ter, and avoiding the rocks ; when they intervene, so as to prevent a hole being made for a greater space than six feet, three or four holes may be made very near together in the next interval, as the trees, though close on one side, will have sufficient air on the other, and in such situations, the Planter must avail himself of every possible spot which will admit a tree.

The earth thus stirred up in the hole, may be left in it, and the turf which was first pared off, turned upside down, and laid on one side until it has been well moistened by autumnal rains ; immediately after which, the trees should be planted. Spring would be a bad season for this work, from the danger of drought, which would be doubly destructive in this dry, burning soil, and for the same reason, the turf pared off ought not to be put in the *bottom* of the hole, as is usually done in other situations, as it is here generally light and spongy, and full of sedge, which would admit the parching winds, and prevent the plants taking root.

Having

Having thus waited 'till after the first heavy autumnal rains, take up as many *seedlings* from a deep well prepared nursery as can be planted in one day, preserve all the roots possible, and let them be carried to your plantation in a flat basket covered with wet moss.— A space of about ten inches broad must be opened in the center of each hole, which may be done by a chop of a broad spade, and turning it once about; in this the seedling plant must be laid *horizontally*, with all its roots spread out about three or four inches deep if you can; then raise up the head of the plant just at the junction of the root with the stem, and put the earth close up to it; prick the rest of the hole lightly with a spade, and cover it with the turf, grafs side down, after first making a cut in one side to introduce the stem of the plant, which will be more effectually kept in an upright posture by this, than by loose earth, and is preserved by it at the same time from the effect of drying winds.

This is certainly an excellent mode of planting in a shallow soil, but I have some doubts  
whether

cultivating this useful tree, which, as Fortescue observes, is never out of place, and flourishes in every soil and every climate from the sandy plains of Hesse Darmstadt, to the craggy mountains of North Britain; which may be planted in our wet bogs, and will, at the same time, form the most beautiful covering for our dryest and bleakest hills.



He

He objects to transplanting this species of fir in a nursery, and putting them out at three or four years old, both from the hazard they will run in removal at that age, and from the great inconvenience, when several hundreds of acres are to be planted in one season, which is frequently the case at present in Scotland.

He advises that the plants may be removed at two years old, from the seed bed to the place designed for their future growth; if it be a bare heath or shallow moor, not productive of coarse grass or strong weeds, they will soon get above the heath, if only their tops appear when planted.—On such ground, no holes need be made, a long narrow spade, with a strong foot-hold on one side, is forced as deep into the ground as the foot can press it, and as it is drawn gently out, a little plant is slipped into the opening before or behind the spade as most convenient, by a boy who carries the plants in a little basket, with wet moss on them; but if the weather is dry or windy,



it is the better way to have the plants brought into the field in a vessel of water, in which earth has been mixed to the consistence of pap, from which small parcels of seedlings may be taken out as they are wanted.

After the plant is inserted in the cleft made by the spade, the ground is pressed close about it with the foot, and nothing further is necessary to the work, which may be performed at the rate of one shilling per thousand; a man with his two little attendants planting two thousand in one day with great ease.

As the author computes the number to an English acre, it would take just seven thousand eight hundred and forty to an Irish acre, to have the trees at three feet every way from each other.—This I allow to be a great number, more than twice what I have ever known to be planted: but the Author asserts, if nothing but Scots fir is intended in the plantation, they should not be at a greater distance,  
not

not only for the purpose of affording each other shelter on bleak exposures, but as it is the excellency of the fir for timber to grow straight and tall as possible, free from knots, and nearly of equal thickness from top to bottom, to all which, thick planting certainly contributes: in this, he states we are directed by Nature in the growth of the wild fir, which frequently stands much closer together than is here required; yet when old, they produce masts of prodigious length, of the finest grain, and free from knots: Their closeness and struggle to get their tops to the air, conducing to their height and even growth, whilst their near approach causes their superfluous side branches to die, and the rubbing of one tree against another, as agitated by the wind, divests them of the little rotten stumps; the place where they grew is soon covered over with a firm wood, and the stem becomes smooth, encreasing by superadded growths without the mark of a branch having ever been on it.

The

That the best foreign timber has thus been produced, appears from comparing its grain with what we raise in a different way ; the latter being suffered to grow in an open space, without any thing to interrupt the side shoots, soon becomes a broad headed bush : the side branches being often as strong as the middle shoot, and the bottom of the stem considerably groffer than the upper part, and through the whole a mere conjunction of knots.—The former on the other hand nearly of an equal size throughout, free from knots, and of so fine a grain or reed, as the workmen call it, (which is in fact, no more than the annual encrease of growth) that it is scarcely to be distinguished by the naked eye : but has by the help of a glass, been counted to the surprising number of four hundred Lamina in the space of one foot, plainly indicating that the tree must have taken at least two hundred years to come to that size.

The closeness of their early growth he also asserts has a tendency to produce more heart or red wood in a given time, which is the criterion  
of

of the merit of this timber, at the time of felling.

What an encouragement is here held out to the cloathing of our nearly barren mountains with this useful tree, when the slowness of its growth in the diameter of its stem, tends to its perfection; and where the necessary closeness in the beginning would afford such thinnings, as in many parts of Ireland would produce a most profitable and speedy return.

Spruce fir may be planted at once from the seedling-bed, in the manner directed for the Scots, except that they need not be planted so close, and should not be removed until *three* years old; but as this tree bears removal very well at any size under four feet, and is not of such general use, nor so well suited to the soil of Ireland in general as the former, I think it had better be once transplanted in the nursery.—Silver fir, is of so slow a growth for the first three years, that it can never be propagated but by transplantation; when it is two

or



or three feet high it removes with great success, and on a stiff stubborn soil, where other evergreens scarcely make any progress, I have known this beautiful tree grow to great perfection; it will bear the sea air, and a very bleak exposure; but it amply repays the advantages of a milder situation: two of those in a valley in a deep sandy soil at Mount-Usher, in the county of Wicklow, measuring twelve feet round at six feet from the ground, and were above a hundred feet high many years ago.

They carried  
the tree for  
full 40 ft

Fortescue asserts the advantage of planting Weymouth pine in *Woodlands*, at once from the seed bed; and from my own experience, I can vouch the success of this practice: of one hundred planted in the county of Wicklow, from the seed bed, about twenty years ago, ninety-eight remain, many of them above forty feet high, and measuring from thirty inches to four feet four inches in circumference; they were three years old when transplanted.

It

It is not, however, easy to ascertain the soil in which the different species of fir make the greatest progress; those disposed to run down-wards like the Scots, silver fir, and pinaster, will grow on the tops of dry banks, or narrow double ditches; but I have never known a spruce fir, or Weymouth pine to thrive in such situations.—Shelter, and I believe a mellow soil are requisite to bring the latter to perfection: those I have before mentioned grow in such a soil, with a substratum of loose red earth to a great depth.

I should have said the same of the spruce fir, (as several I have on that kind of ground, have made a most rapid progress, many of them being more than four feet six inches in girth, at twenty-five years from the seed) had I not seen remarkable fine trees of this species in very different soils, those, for example, at Gloster in the King's county have grown to the greatest perfection, in a black peaty moor, over a stiff gravelly clay remarkably sterile: Those at Ballykillcavan, in the Queen's county, were most  
K
beautiful,

beautiful, before an improving gardener cut off all their weeping branches ; they seem to grow on a dry limestone gravel, and Boutcher speaks highly of the merit of the spruce, as suited to hungry deep *till* and *clays*, where he asserts they would in a short time change the cold and gloomy appearance of such inhospitable tracts of land : but whatever may be the soil, its roots seem to demand room to spread on the surface, nor should those trees be suffered to continue close together for any length of time ; they have a natural inclination to grow straight and upright, and do not require to stand so thick for the purpose of improving their timber, as is recommended for the Scots fir : When they have not been judiciously thinned, I have known whole groves of fourteen years growth suddenly decay, to the great disappointment of the planter, and discredit of this beautiful tree, which by proper attention might have been preserved in full vigour. It is an indisputable fact, that the timber when of a proper age, and suffered to stand 'till the knots have been covered for the space of eighteen or twenty feet, is excellent

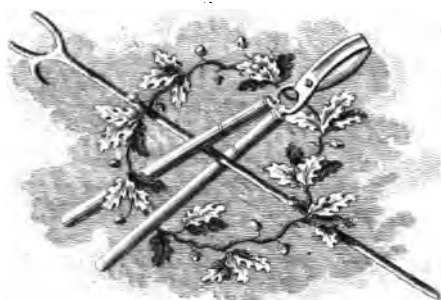
cellent for every purpose to which white or yellow deal is applicable; and every planter must allow, that in whatever soil it agrees with, no tree can produce a speedier or more effectual shelter, whilst at the same time by its lively verdure, close foliage, and picturesque disposition of its weeping branches, (circumstances always to be observed when the tree is in a perfect thriving state) it is peculiarly adapted to several purposes of rural decoration.











*Small Scissors*

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ON  
P R U N I N G,  
AND THE MANAGEMENT OF  
W O O D S.

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**H**AVING now gone through the task I originally proposed, of comparing the works of the most approved Authors on the subject of planting, with the result of my own experience, and adapting as much as lay in my power the variety of directions they contain, to the soils and situations for which they appear to have been respectively intended ; I shall offer a few observations on the management of plantations of *some years* standing, when the care and attention which has been bestowed on them at the time of planting, shall have produced that *luxuriant growth*, which, whilst it gratifies the planter's wishes at the moment, would utterly defeat

defeat them in the end, if not skilfully directed and kept within proper bounds.—I shall not however greatly enlarge upon the subject of *pruning*, as exclusive of my wish to give this little treatise the merit of being *concise* at least, if it shall lay claim to nothing more, I have not found those contradictions in Authors with respect to that branch of the planter's art, which are to be observed in most others; it being universally admitted, that the heavy use of the knife or saw on the side branches, though prevented from being injurious by the admission of frost or rain, as certainly may be done by the skill of the workman and application of Mr. Foresayth's and other compositions, still tends to weaken the *stem*, and encrease the head so as to make the tree *top-heavy*; and thus either loosens the root or produces in the future timber what the English woodmen call windshakes, whilst on the other hand the neglect of cutting off in time the ill placed luxuriant branches, permits improper boughs to take the lead, and fills the timber with unsightly knots; the want of timely thinning has the same effect on a plantation,

which

which too severe pruning of the stem produces, the plants in both cases being drawn up to weak slender poles. On the whole, no better general rule can be given than that, of never suffering any part of a tree to interfere with its neighbour for a *second season*. By this rule judiciously applied, you may continually extend your plantations, whilst they are composed of trees *young* enough to bear *transplanting*. At a more advanced age, the saw and long-handled pruning sheers will be found to be very useful instruments; but if after this, they still stand too close together, the *axe* must do its office, taking care at the same time, that the falling of one tree does not injure another, which is best prevented by a careful labourer attending on the *feller*, with a long pole, whose top is furnished with an iron fork and a hook on one side of it, by which he either draws the falling tree towards him, or pushes it off, so as best to keep clear of the branches or stem of those trees which are designed *to remain*. A considerable profit may thus be made of our plantations or coppice woods, even of a very few years growth, and  
both

both may in time be converted into open groves, where the branching heads of well grown healthy timber trees, at thirty feet asunder, shall afford more shade and shelter, than ten times their number suffered to crowd each other, in the ordinary method of management; the *over-stands* here injuring the underwood, only as the former gradually arrives at perfection; thus warm and sheltered by their closeness when young, and thinned from time to time as they want room, they never become *hide-bound* or *rampiked*, but will at the second fall of the coppice-wood, be worth three times at least, the purchase of the fee-simple of the ground they occupy, after repaying the sum they might have sold for at the time of reserving them with interest, and also the loss the underwood may have sustained by their overshading it; as it should always be taken into consideration, that the value of an oak under twenty-five years growth, bears no sort of proportion to that of one of fifty: A fine sapling of the former age, not being worth more at this day than half a crown at most, (the bark included,) whilst I have known oaks  
of

of the latter to sell from twenty to thirty shillings each, and in some instances as I shall state hereafter for nearly double that sum.\*

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## THIS

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\* From my own experience, and the best information I can procure on the subject, the following is a fair estimate of the value of oak of different ages in the county of *Wicklow*, and I believe it will not be found to vary much in other parts of the kingdom.

An acre of coppice wood from twenty to twenty-five years growth, in which there are no reserves from a past fall, may be worth *thirty pounds*.

It will require twenty-four such trees as usually compose a coppice of that age, and which has not been regularly thin'd, to produce on an average, a barrel of bark of twelve stone, worth in summer 1793, *fifteen shillings*, which was then considered very dear. The poles of such a coppice sell from *four to seven shillings* per dozen.

One tree of fifty years growth, will produce a barrel of bark. The timber of such a tree is worth from *twelve to twenty shillings*.—A tree of seventy-five years growth may be worth from *four to seven pounds*, according to its form, and the demand for the particular timber it contains; the more *crooked* in general the more valuable.

From hence we may fairly make the following calculation, *viz.* that an acre of coppice wood of twenty-five



THIS great disproportion in the value of trees of different ages, throws a strong light on that part of my subject, in which I confess I am on every account,

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five years growth, in which eighty of the best young oak are now marked as reserves, and the remainder felled this year, will in twenty-five years, (instead of *thirty pounds*, its utmost value at present,) be worth *one hundred and ten pounds* at least, after allowing *ten pounds* for the injury these reserves or overstands may do to some of the coppice wood.

Now, supposing forty only of these reserves to be felled at the expiration of twenty-five years, and forty of the new growth to be then marked to supply their places, the value of the second fall, *viz.* in fifty years from this year, might be estimated as follows, at the lowest calculation :

	£.	s.	d.
The coppice wood, - - - - -	20	0	0
Forty reserves of fifty years growth, at one guinea each, - - - - -	45	10	0
Forty ditto, of seventy-five years growth, <i>five pounds</i> each at an average. - - -	200	0	0
	<hr/>		
	£ 265	10	0

Add to the above the value of the first fall, deducting forty guineas for forty of the fifty year old reserves, which are supposed to be still left at this fall, - - -

	£ 64	10	0
	<hr/>		
The value of the acre in fifty years, will then amount to - - -	£ 330	0	0
	<hr/>		
And			



*ling* ; and here I must observe, that few things have been more prejudicial to the landed interest of Ireland, than the absurd opinion adopted about forty-years since with respect to woods, *viz.* that wherever a wood was *felled*, it was useless, if not detrimental, to leave a *single reserve*, and that no shoot from a tree, once cut down, could ever grow to *timber*.

This ill founded theory stripped whole counties at once, both of their ornament and shelter : whereas a judicious *thinning-fall*, repeated from time to time, wou'd have kept up that appearance of woodland which we remark in almost every shire in England ; and would at the same time have produced within a very few years, as is already stated, an infinitely greater profit than the advocates of a *general fall* could ever hope for, at their highest calculation, and even with com-

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prove a source of wealth to our family, contributes in the meantime, to some of the most refined and rational enjoyments of life, whilst in the words of the truly pastoral Shenstone,

We “ *Call forth refreshing Shades, and decorate Repose.*”

pound

pound interest to assist them, as may evidently appear from the statement in the preceding note.

We find among other pieces of valuable information, for which we are much indebted to the intelligent author of " Minutes of Agriculture and Planting, in the midland Shires of England," that four acres of oak in Warwick-Shire, of about sixty-four years growth, has paid already by various thinnings above *four hundred pounds*. That the reserved timber trees, (which are now considered as standing too close) are worth from twenty to twenty-five shillings each, the soil a hungry deep clay, of no greater value than *seven shillings and six pence* per acre.

Now, supposing the over-stands at this time to be only forty on each acre, and taken at the lowest valuation, viz. twenty shillings each, the return of the acre from past falls, and present value of timber, amounts to *one hundred and forty pounds*, and would on the *Irish* acre in similar circumstances, amount to *two hundred and ten pounds*, which at *ten shillings* for the value

value of the land, (a rate at which many thousand acres capable of producing valuable timber, might be rented in this kingdom), is *four hundred and twenty* years purchase and that within *seventy* years at most. †

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† It gave me great pleasure to find that the calculation I had made of the value of an acre of wood, properly managed, with well chosen reserves, amounting at the third fall to the net sum of *two hundred and two pounds*, should be so strongly supported by the above return, of the actual produce of the four acres in Warwickshire; in addition to which, I find in an ingenious treatise communicated to the Secretary of the Bath Society, by a gentleman in Norfolk, that a particular oak, which measured in 1768, seven feet eight inches round, in 1771 was eight feet, and in 1790, was ten feet in circumference: from this he argues, that after the first twenty-five or thirty years, no tree grows faster than the oak, in a soil properly suited to it; extending yearly about one inch and one-third in circumference; but this growth causing an encrease in the quantity of timber in *a geometrical proportion*. So that admitting, in 1768, that the tree contained one hundred and ten feet of timber, in 1790, it contained two hundred feet; thus encreasing ninety feet of timber in twenty-two years.—This proves to demonstration, the great progressive value of oak from *fifty* to one hundred years standing: after *that age* I am not enabled to determine, whether or not they attain any considerable encrease either in *bulk* or *value*.

As

As to the danger of the reserved trees decaying, there is not the least room for apprehension, if not left *too thin* at the first fall, or injudiciously marked out of such trees, as have grown in *thick clusters*, in preference to those that have stood *single* for some time, and gained an ascendancy over the surrounding plants. Every copice wood contains a sufficiency of such trees as those latter, to be made choice of for *reserves*; and as to their future growth, it is now incontestably proved, that some of the finest trees which England has produced, have arisen from old stools. I have in my own woods, an oak of this description, growing in two stems from the root, which is worth at least twelve guineas, and there is another in the domain of Ballybeg, in this neighbourhood, which measures round the forked trunk upwards of *twenty-seven* feet, round one of the stems *twenty* feet, and round the other *twelve*, and is gross timber for more than *forty* feet in height, as we shall see more particularly hereafter.

This last has the honour of being one of the few remaining trees of those woods, which rendered the barony of Shillela, in the county of Wicklow,

Wicklow, proverbially famous for its timber, and gave the denomination of *Fairwood-Park* to that district in which the great, but unfortunate Earl of Stafford built his hunting-lodge: His descendant, Earl Fitzwilliam now possesses this estate, from whose liberal attention to whatever may in any way promote the benefit of this country\*, and from the excellent system adopted by the gentlemen who have the present management of his Lordship's woods, I flatter myself that posterity may see Shillela as remarkable, for timber in the next century, as in the last, when its oak, if we may judge from the specimens which still remain, was as superior to most others in the firmness of its texture, as in its stately height and great dimensions. An instance of the latter has fallen within my knowledge, too

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\* His Lordship has expended within these two years, above 4000l. in building a Hall for the sale of coarse woollen goods, which are made to great perfection in the neighbourhood of Rathdrum. He might have been assisted by a large subscription in this truly useful work, but generously determined to carry it on, at his own expence.

remark-

remarkable to be passed over in a treatise, which professes to enforce the important object of reserving a certain portion of our woods, for the use of posterity.

Some years since the late Mr. Siffon, who was employed as a master-builder, under the surveyor-general of public works, having laid out considerable sums in the purchase of timber on the Shillela estate, was desired by the then agent to chuse one tree for his own use, as a compliment to him for the preference he had given to those woods in the course of his employment. He made choice of an oak, which though *forked* from the ground, was of such dimensions that each stem was gross enough for a *mill-shaft* at more than *fifty feet* from the but. Two pieces were appropriated to that use, the remainder he sawed into very thin pannels, which sold from the saw by measurement, for upwards of 250/. He might have taken a larger tree, but prefer'd this, on account of the straightness of the stem and clearness of the grain; from which circumstances, and its being *forked*

M from



from the ground, there is the utmost reason to believe, that this great mass of timber proceeded from the root of a tree which had once been felled, though in all probability at *no advanced age*.\*

But supposing that the possibility of having a fine growth of timber from the *old stools* could not be as fully proved, as it is now allow-

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\* I have the satisfaction of finding this statement of the great value of the tree felled by Mr. Siffon, supported by the accurate return of the produce of the Langley oak on the verge of the new forest in Hampshire, with which Mr. T. South, of Bassington, has favoured the Bath Society.

The tree was felled in the year 1758; its branches, which contained knees fit for a first rate ship, extended forty feet on every side; its trunk which was about twenty feet high, measured twelve feet diameter at the ground, and six feet at the top; the contents of the whole amounted to thirty-two load of hewn timber, which at half-a-crown per foot, produced precisely *two hundred pounds*.—It is stated by Mr. South, that an oak of sixty years growth, will in twenty-four years from that period, double its contents of timber, which I consider a very valuable piece of information.

ed

ed to be, in the opinion of several of the most experienced persons, in the management of woods : What is there to prevent a sufficiency of *saplings* from the *acorn* which are to be found in almost every coppice, from coming to the utmost perfection, if suffered to remain and carefully attended to ? I have seen such saplings promising to supply the *requisite quantity of future timber*, though every tree in the coppice which had once been felled, should be cut again at every fall. The loss to several estates by this indiscriminate destruction of the *entire growth* at every twenty or twenty-five years as *mere underwood*, is not to be conceived by those who have not had experience of the advantage resulting from a contrary practice. I am happy at being able to confirm what I advance by a very strong instance, in my own neighbourhood. An estimate was made in one thousand seven hundred and eighty-seven, by the direction of Colonel Symes, of the value of his woods, at Ballyarthur, near Arklow. The timber stands on about one hundred and forty acres, exclusive of some hedge-rows; the oldest trees did not much exceed one hundred years growth, and of these there were

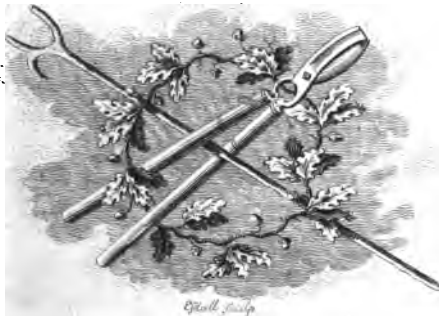
but few: the second rate had stood about eighty years, and the youngest over-stands about fifty; the rest were mere coppice wood, but which had grown in general pretty well under the reserves; an evident proof that these latter stood at a considerable distance from each other, and did not nearly occupy the whole of the ground; the present Proprietor's father freely cut the underwood at *stated periods*; religiously reserving the old timber, or an adequate quantity of the best of the young growth, to succeed such overstands, as were occasionally felled for particular purposes: This self-denying attention to his timber, which from the habit of managing woods in that neighbourhood, in a very different manner, was looked upon at the time, as rather *injurious*, than *advantageous* to his property, and the result of whim rather than of judgment, was amply repaid to his family, when, a very few years after his death, on the estimate above mentioned, the woods on the domain were valued to *fourteen thousand five hundred pounds*, at which rate; the valuator offered to become a purchaser of the whole or any part. From the

the absence of Colonel Symes at this \* moment in the service of his country, as indeed has been the case during the greater part of his life, I am unable to state the particular value of each of the former falls, † but I have sufficient grounds to assert, that at the time of making the above valuation, the wood which had been felled on the domain within fifty years, had produced three times the value of the fee simple of the ground it occupied.

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\* At Newport in Flanders, when this was written.

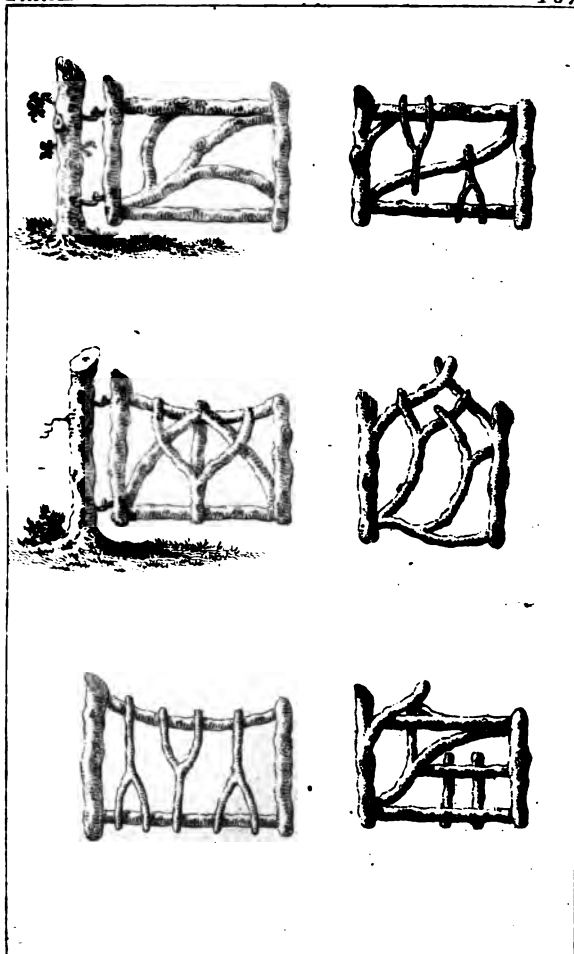
† It will be a pleasure to the lovers of old timber, to learn, that there still remains on the estate above *ten thousand pounds* worth of wood, not likely to be cut till an ample succeeding growth shall give full sanction to its fall.



NOR need the planter wait the regular returns of his coppice woods, for the reward of his attention, it may be almost daily repaid him by a skilful management. The judicious woodman, whilst he leaves the best of each stool for future use, knows how to turn the smallest branches to advantage; the thinnings of our coppices, or of our plantations, which have run up too much for transplantation, answer according to their size for several purposes of rural œconomy; for building, partitioning, and roofing farm houses or cottages, for railing, upright paling, or stakes for hedges: Birch and alder of the smallest size will sell for the chairmakers use; if larger, they are used for cart saddles, soles for pattens, and heels for women's shoes, the demand for which is often very considerable.

Slender ash poles are valuable for hoops, spade, and pitchfork handles, rakes tails, and garden espaliers: if a little *groffer*, and somewhat *crooked* they make the best plow handles, horse hames, and swingle trees, and if ever so crooked and knotty, may be, not only *useful*, but *ornamental*  
in





in rustic buildings, gates,\* and paling. The fallow is not only adapted to the above purposes, but from its durability and lightness, is particularly excellent for making sheep bars, or moveable fences, usually called in England flatted hurdles; † if too small for that use, it may be wrought up as well as the hazel into hoops, lacing of stake hedges, or binding for their tops, as the rim of a basket is usually finished, which will make them last several years; ‡ they are used also for close wrought hurdles for penning sheep, or into a sort of net-work hurdle for that purpose, very light and durable when well made, of which I have given a sketch, as not being much known in this kingdom. The smallest fallow and hazel answer for baskets, or to form little cribs or low sheep racks, preferred in many parts of England, to those of a more expensive construction, as being free from two imperfections, viz. that of *causing the grass seed to fall into the sheep's wool*, and producing a cold

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\* *Vide* Plate II. and IV.      † *Vide* Plate III. Fig. 1.

‡ *Vide* Plate III. Fig. 2.      § *Vide* Plate IV. Fig. 1.



draft of air, to the *legs* and *breast* of the animal, where they are most susceptible of injury from the weather.\*

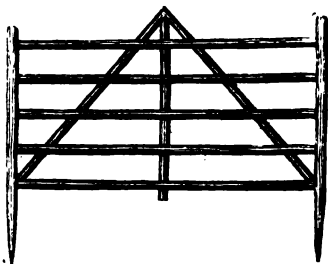
The thinnings of our *oak woods*, though less durable than any of the preceeding when cut young, and in full sap, which is always the case from the value of the *bark* at that time, are not only of use for most of the purposes before mentioned when straight, but if a little crooked, are to be preferred to any others for poling of hops, whose bells ripen better on vines which hang loosely from three such poles, at the usual distance at bottom, but with their tops bending *outwards*, than when straighter and smooother timber is used for the purpose.

If very *crooked* and *knotty*, they may be wrought up like the cankard ash before-mentioned, unto several sorts of paling, rustic gates, seats, wood-houses and other picturesque buildings, such as the few designs annexed, may give some

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\* *Vide* Plate III. Figure 3.

*Fig. I.*



*Fig. II.*



*Fig. III.*

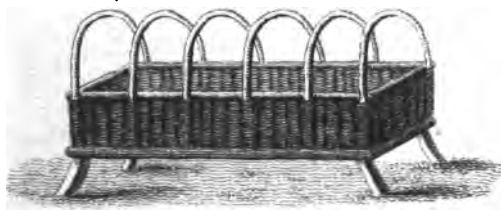
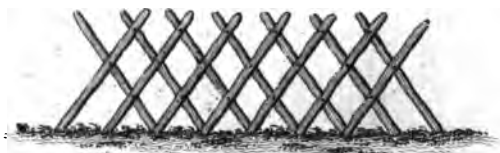
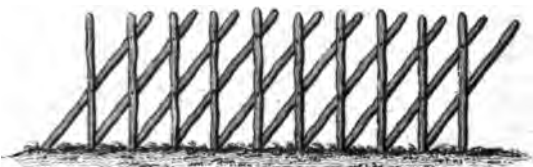
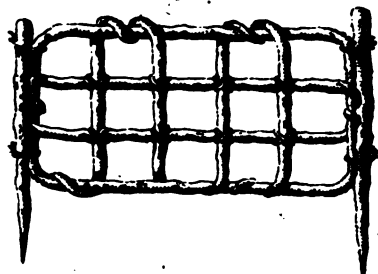






Fig. I.



idea of; † the last purposes to which I think the thinnings of plantations and coppices to be applied to, is firewood and charcoal, though the latter is a very saleable commodity; it is on the whole the least desirable use to which timber can be converted, as no country ever so well wooded, can long stand the depredation made by furnaces, which are to be supplied with wood alone as their constant fuel.

Thus what we thin out of our woods or coppices of every size and shape, may be converted to useful purposes, with considerable profit at the present, and at the same time to the advantage of the future growth, as I may venture from experience to affirm, that the oftener a thick coppice is judiciously thin'd, the greater will be its value in twenty-five years, at which time I suppose the whole to be fell'd, except the *reserves* for future timber.

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† *Vide Vignette.*

The number of these must in a great measure depend on the circumstances of their past growth, and the exposure of the ground on which they stand; if they have not grown well and are in a bleak situation, about *one hundred* should be left on the acre, but if their growth has been advanced by proper thinning, a greater shelter or a richer soil, *sixty* or *eighty* will be fully sufficient.—This quantity to the Irish acre coincides very nearly with what Mr. Evelyn directs should be left on the English, in order to maintain a constant succession; viz. four of the best growth, fourteen second best, fourteen thirds, and eight wavers or young saplings; and so attentive were our English ancestors to insure a proper supply of timber, that the proprietors of woods were compelled by the statute of the thirty-fifth of Henry the Eighth, to leave twelve of the best *standrils* on every acre of coppice at each fall, together with a due proportion of a younger growth for succession; and were, at the same time restricted from cutting any of the former, 'till they should measure

*forty*

*forty* inches in circumference, at five feet from the ground.\*

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\* It is to be regretted that similar regulations with respect to woods were not enacted in this kingdom, at the time of the introduction of the tenth of William the Third, which as the preamble sets forth, was intended to provide against the great waste of timber, caused by the ravages of civil war, and the introduction of iron forges and furnaces. This statute for enforcing the annual plantation of a certain number of trees, in proportion to the ground which each proprietor occupied, was not attended with the good consequences expected, and which the above regulations would in a great measure have produced; as the several circumstances of soil and situation, together with competent skill, and continual attention, which were all requisite in one case, by no means applied to the other. That such regulations were wanting is a melancholy truth, too evident to every person who travels through this kingdom, and consequently sees what tracts of wood have been laid waste by tenants for life of all descriptions, who so far from leaving *reserves*, are seldom at the pains even of fencing up the young coppice, for the advantage of their successors.—Amongst many other instances, I am sorry, I am obliged to state, that I have been eye-witnesses to the fall of nearly two hundred acres of beautiful well growing oak, in a romantic valley, on the free lands  
of



To be enabled to pursue this excellent method, the utmost care should be observed in felling coppices in such a manner, as may ensure

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of Glandelough in the county of Wicklow, *three times* within the space of *twenty-four* years—the produce of each sale to the several Archbishops never exceeded one hundred pounds, and as I am informed, amounted once only to *fifty pounds*, or *five shillings* per acre for a coppice, which had it only been preserved for the same number of years, though not containing a single *reserve* of a former growth, would have produced *thirty pounds* per acre at the lowest valuation, or *six thousand pounds* in place of *fifty*.

I am far from wishing that any individual or body of men, and least of all at this time, that the *church* should be deprived of the smallest portion of their rights and property, but I am certain, that means might be devised to remedy this evil, without any such consequence: the value of those woods, which belong to tenants for life, corporate bodies, &c. and such as are not fit for a *general fall*, might be taken at *stated periods*, and the amount of the whole, or such reserves as shall be required to stand, together with interest from that time, charged on the *successor*, whose future property may be considered as so far *mortgaged* for the discharge of that sum in the first instance.—The tenant for life, in this case can be no  
*loser,*

sure a found and perfect growth from the stools, and such as might hereafter afford a choice of young trees for future reserves, if there should not be found a sufficiency of *saplings from the acorns*.—There is a wide difference of opinion on this subject; I have known some  
owners

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*loser*, whilst the successor and the nation at large, will be benefited by a valuable growth of timber, and that in a degree so disproportionate to what can arise from the sale of such miserable premature falls as I allude to, that I shall be pardoned the warmth of expression by all lovers of timber, and the improvement of their country, when I assert, that a contrary conduct tho' continued for so many years, could only have originated in the *grosslest ignorance, and unenlightened avarice*; at the same time, I have the pleasure of observing, that the late act, which gives to the *tenant* the profit of such woodland on his farm, as he may fence up for coppice at his own expence, subject to certain restrictions, has been attended in many places with all the advantages expected from the measure; amongst other instances, a very considerable tract of the above woods of Glandelough, have been fenced up from cattle by James Chritchly, Esq. a tenant of the See of Dublin, with the present Archbishop's approbation, and the wood is now in a fine growing state.

owners of large tracts of wood, and great lovers of timber, who have cautiously prohibited the stripping of bark off their oak nearer than *six* inches to the ground, about which spot they suppose the tree to be felled, whilst others wish to have the bark stripped as near the ground as possible, provided that in so doing, there is no part whatever of the root laid bare.

I profess to be of the last opinion, and think the advocates for the former method, would on closer investigation, save themselves a deal of unnecessary trouble to little purpose at best, if not to their considerable injury; as it must be evident to any person, who will give himself the trouble of examining the growth of a shoot from an old stock, that so long as the sap has a portion of bark to ascend through, the shoot is not forced out; but at last makes its appearance at some inches above the ground, on the side of the old stub, and often in a horizontal position; where if several weak ones are thus produced, they form an unsightly tuft of almost useless brush-wood; but if one by superior strength,

strength, or by the others being pruned away, shall take a lead, it must be by bending upwards at its base, like a breast-quick in a ditch, with this difference in favour of the latter, that the one depends immediately on its own roots, whilst the young oak has nothing to depend on but the shell of the old stub, which in this situation generally becomes rotten within side, and daily less and less able to give that support, which the encreasing weight of the young tree is daily more in need of : from this circumstance, it happens, that we so often find some of our tallest young oak, from ten to fifteen years growth, lying flat on the ground in our coppices, *slip'd off* as it were, from the old stool at the spot from whence they were produced ; whereas if the bark had been strip'd quite to the ground, and the tree then cut as low as possible with a sharp axe, leaving the center of the stub a little higher than the edges, the young shoots must have sprung up like *suckers*, quite free from the original stem, and often at six or eight inches distance from it, their butts being sufficiently low in the ground

ground to enable them to strike roots for themselves, and standing at such a distance from each other, that their growth may be perpendicular for several years without interference, and consequently till they arrive at such a size that the worst may be felled for useful purposes, and the best *reserved*, with nearly the same advantage as if it had been a *sapling* produced from the acorn.



The better to explain what I have described, as the result of the different methods of stripping off the bark, I have added a sketch of three coppice oaks,\* two of them growing in the way we should wish to prevent, and the third in such a manner as to promise a good stock of coppice wood, or even future timber if properly thin'd, and attended to in its growth.

Sensible at the same time, of the bad consequence of having any part of the root stripped of its bark, I have generally employed an intelligent labourer to attend the workmen, who *precede the fellers*; and whose business it is to take off that part of the bark, which would otherwise be chopped into useless pieces by the axe: he should see that a cut is given all round the stem, just above the ground, which will stop the stripping of the bark at that spot; he must also take care that no injury is done to those trees which are *marked to stand as reserves*, this, with the appointment

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pointment

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\* *Vide vignette preceding.*

pointment of another careful person to watch that the fellers cut smooth, and do not leave the stub hollow in the middle, which is technically termed *disbing* by the woodmen, will ensure a fine healthy growth; at the same time, by furnishing this latter with a long pole as before described, by which he may draw towards him or push off the falling tree, so as best to escape the reserves, we shall find the advantages will amply repay the expence of their wages; especially as the season of felling oak is confined to a few weeks in summer.

Though I know many valuable coppices at this moment, on which no farther care has been bestowed than what I have above mentioned, and that of being carefully preserved from cattle, without which no future growth can ever be expected, \* Yet, I have little doubt, of the  
great

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\* The vigorous growth of <sup>( )</sup>grafs during the first three years after the felling of a wood, renders a coppice a continual object of trespass to every beast, and I may almost say, to every owner of a beast in its vicinity :  
along

great advantage which might follow the application of Mr. Forefyth's composition; especially where it is found necessary to fell *one or more* plants off the same stool, on which we mean to leave a *reserve*.

The testimonies in favour of his practice are so numerous, and highly respectable, that I regret

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along with the grafts, they devour the young growth of trees; and the temptation of such a quantity of pasturage is so strong, that it is hardly possible to find a coppice-keeper of sufficient integrity to withstand it.—A stout disinterested wood-ranger is a most valuable servant, and deserves every possible encouragement: most owners of woods are much in their coppice-keepers power—I have known some weak enough to take the advice of a selfish knave, and fell all their woods without *reserves*, lest these latter might *decay*; when the true motive for giving such advice, was merely to avoid the *trouble* of having them under his care, and that there might be *more grafts* in the wood, in consequence of the overstands being cut down; others are assured, and implicitly believe it, that horses do no injury to young trees, and in consequence give their wood-rangers privilege to keep a few horses in their coppices, of which they take care to avail themselves to their own *great emolument*, and the *destruction* of their master's woods.



I have not had time sufficient to enable me to recommend it from my own experience.

What I had made use of before I heard of Mr. Forefyth's composition, when an application of that nature seemed necessary, was a sort of Dutch grafting wax or mummy. Tho' the ingredients are more expensive, and the method of applying it more troublesome, yet as I have ~~known it used with great success on considerable~~ wounds, given to peach, plumb and cherry trees,†  
and

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† A few years since, a great mastiff dog slip'd into my garden, just before the gardener quitted it for the night. The dog was no sooner locked in, than the animal became impatient of his situation, and made incessant efforts to regain his liberty; the consequence was, that in attempting during the whole night to get over a twelve foot wall, and fastening his feet continually in the wall trees, as he fell back he tore several of them almost to pieces; they were at that moment in high bearing, and covered with fruit.—The gardener's feelings on this occasion when he entered in the morning, may be easily conceived; there was no remedy, but patiently to prune off the broken branches, some of which were very large, and cover the wounds with the graft-  
ing

and these in the middle of summer, I shall copy the receipt for making it,† as well as that published

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ing wax above mentioned, they were soon healed, fine fresh wood was produced. and many of the trees are now in better order, than before the accident happened.

‡ Directions for making the Dutch Grafting Wax:

“ Take one pound of common black pitch, a quarter  
“ of a pound of common turpentine, put them together  
“ into an earthen pot, and set it on fire in the air, holding a cover ready to quench it with, which must be  
“ done suddenly, and repeated several times.—This prepared pitch must then have a quantity of bees wax  
“ added to it till it is of a proper consistency.

“ N. B. It should be put on as warm as it can be used  
“ without injury to the wood or bark of the tree, on  
“ this fine sand may be sifted, which will prevent the Sun  
“ from having any effect on it.”

Directions for the medicated Tar, used with great success in dressing of the wounds of orchard trees, as communicated to the Society of Arts, &c. &c. in London, by Thomas S. D. Bucknell, Esq.

“ Take a quarter of an ounce of corrosive sublimate,  
“ reduced to fine powder, by beating with a wooden  
“ mallet,

lified by Mr. Forefyth, || and think there may be particular circumstances where the application

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“ mallet, put it into a three pint earthen pipkin, with a  
 “ glafs of strong fpirits, and fir it well together, till the  
 “ fublimite is diffolved: the vefel is then to be filled  
 “ with common tar, and stirred 'till the whole mixture  
 “ is well blended.”—The above quantity is fufficient for  
 dressing two hundred apple trees.

|| Directions for making a Compofition for curing difeafes, defects and injuries, in all kinds of fruit and foreft trees, and the method of preparing the trees, and laying on the Compofition, by Mr. William Forefyth, of Kenfington, as delivered in on oath to the Land Revenue Office Scotland-yard, London, the 11th of May, 1791 :

“ Take one bufhel of frefh cow dung, half a bufhel  
 “ of lime rubbifh of old buildings, that from the ciel-  
 “ ing of rooms is preferable, half a bufhel of wood-  
 “ afhes, and one-fixteenth part of a bufhel of pit or river  
 “ fand, the three laft articles are to be fifted fine be-  
 “ fore they are mixed; then work them together with  
 “ a fpathe, and afterwards with a wooden beater, until  
 “ the ftuff is very fmooth, like fine plaifter ufed for the  
 “ cielings of rooms.”

“ The compofition being thus made, care muft be  
 “ taken to prepare the tree properly for its application,  
 “ by

cation of one might be attended with advantages,

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“ by cutting away all the dead, decayed and injured  
“ part, 'till you come to the fresh sound wood, leaving  
“ the surface of the wood very smooth, and rounding off  
“ the edges of the bark with a draw knife, or other in-  
“ strument perfectly smooth, which must be particularly  
“ attended to ; then lay on the plaister about an eighth  
“ of an inch thick, all over the part where the wood or  
“ bark has been so cut away, finishing off the edges as  
“ thin as possible : then take a quantity of dry powder  
“ of wood ashes, mixed with one-sixth part of the same  
“ quantity of burnt bones ; put it into a tin box with  
“ holes at the top, and shake the powder on the surface  
“ of the plaister, till the whole is covered over with it,  
“ letting it remain for half an hour to absorb the moi-  
“ sture ; then apply more powder, rubbing it on gently  
“ with the hand, and repeating the application of the  
“ powder, 'till the whole plaister becomes a dry, smooth  
“ surface.

“ All trees cut down near the ground should have  
“ the surface made quite smooth, rounding it off in a  
“ small degree, as before mentioned, and the dry pow-  
“ der directed to be used afterwards, should have an  
“ equal quantity of powder of alabaster mixed with it,  
“ in order the better to resist the dripping of trees and  
“ heavy rains.

“ Any

tages, which could not so well result from the other. §

ON

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“ Any of the composition not used must be kept in  
 “ a vessel, covered with urine of any kind, or the at-  
 “ mosphere will injure the efficacy of the application;  
 “ where lime, rubbish of old buildings cannot be got;  
 “ pounded chalk, or common lime after being slacked  
 “ one month at least, will answer.

“ As the growth of the tree disturbs the plaister on  
 “ the edges next the bark, that part should be rubbed  
 “ over with the finger after rain, to smooth down the  
 “ plaister, and keep it whole, to prevent air and wet  
 “ from getting into the wound.”

§ Where the application may be wanting to a torn root,  
 or when it may be thought necessary to cover the ends of  
 tender cuttings, the grafting wax seems more likely to  
 answer the purpose, than Mr. Forsyth's composition. By  
 the application of the wax to the smallest cuttings pos-  
 sible, and covering them with a cap glass, I have soon  
 found them rooted plants: where they have been as large  
 as a walking-stick, I have set them quite perpen-  
 dicular, in a rich shady border, in which situation they  
 have thrown out vigorous branches from the top, and the  
 cutting has become a smooth stem. I have raised many  
 handsomer plants of the common or Portugal laurel in  
 this way, than ever I saw from the berries and that in one  
 third of the time, as I plant the cuttings from three to five  
 feet high.



GREAT ASH, OF LEIX.  
*S.H. Del.*

ON THE  
MAGNITUDE, VALUE  
And QUICKNESS of GROWTH of  
S E V E R A L  
TREES IN IRELAND.

HAVING in the beginning of this little essay instructed the *Planter* to the best of my ability, in the different methods he may pursue for the attainment of a valuable growth of wood, and now inculcated to the *proprietors of woodland*, the absolute necessity of attention to their trees and coppices whilst young, and of *reserving* a certain portion of the best grown plants at every fall, (if only for *their own* emolument not to mention the advantage of such a process to *posterity*). I can in no way

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better

better support whatever arguments I may have advanced in favour of *planting* and *reserving of timber*, than by enumerating those instances of great magnitude and value to which many trees have arrived in this kingdom; together with such specimens of a quick growth, as have either fallen within my immediate observation, or have been so well authenticated that I can vouch for their truth. The *one*, must naturally inculcate the preservation of timber, whilst the *other* cannot fail of stimulating the *active* and *spirited* Planter to *double* his exertions, and may encourage the *most timid* to *persevere*.

Such has been the waste of timber in Ireland during the last century from the unsettled state of the kingdom, and other causes, amongst which we may reckon the introduction of iron forges and furnaces, that there scarcely exists in some districts, a sufficiency to favour the supposition, that we ever possessed a valuable growth; but from what I have seen I am inclined to believe, that on an attentive survey, we should find a far greater number of trees of considerable dimensions

dimensions *now standing*, than a traveller could suppose on a cursory view of the country.

It was at first my intention to have undertaken this general survey ; but finding that it would have been attended with more trouble and delay than at first appeared, I confined my enquiries to a few neighbouring counties; the result, which I think very satisfactory, I shall have the pleasure of communicating: Except in a few instances I kept entirely to the maritime side of the county of Wicklow, Queen's county and the county of Dublin, and even in these, I must have left several trees unnoticed, which no doubt deserved attention.

I could have considerably enlarged my catalogue, if I had not determined to state nothing which may not be perfectly relied on, and even thus, the instances I am enabled to give of the great trees still standing, or whose remains are sufficient to authenticate what they were within a few years, are fully adequate to prove, that Ireland in due time is capable of producing timber of the *first magnitude*; and that consequently we



can never be too careful of the *woods we already possess*; whilst the several specimens of rapid growth I can adduce, will be found sufficient on the other hand to encourage the *Planter* to extend his labours as I before observed to the utmost of his ability; not only as a healthy and rational amusement, and for the purpose of ornamenting his domain, but as a profitable employment, a source of future wealth to his family, and (if he makes *oak* his choice, as no doubt it ought, whether we consider the *bark*\* or the *timber*) as intimately connected

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\* So great is the deficiency of oak bark at this time in Ireland in proportion to the demand, that the Chancellor of our Exchequer Sir John Parnell, from that attention to the manufactures of this kingdom which he (as well as his predecessor in office the present Speaker,) has been long known to possess, was induced to propose in the last session a bounty of three shillings per barrel on all bark imported into the kingdom during the current year. This measure may at first appear injurious to that spirit of *planting*, which as an extensive Planter himself, and on many other considerations, the Chancellor of the Exchequer would certainly wish to encourage; but exclusive of several countervailing circumstances, such as a large additional

ned with the advancement of the manufactures and general improvement of his country.

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additional bounty on *oak plantations*, &c. which the Dublin Society have in contemplation to offer, it is, I believe, a fact, that the *bark* of no other country (England excepted, who does not wish to export it) will ever be purchased by our manufacturers, when *that of our own can be procured*. I shall take an opportunity of enlarging more hereafter on this subject.



ON THE  
MAGNITUDE and VALUE of TREES.

**I**N the small survey, which as before mentioned, my time permitted me to make, the district of *Shillela* in the county of Wicklow first claimed my attention. Though the name, with little variation in the spelling, may be literally translated *fair-wood*, there are *few* now remaining of those celebrated oak which authorized that denomination; but those *few* are sufficient to support what has been handed down to us concerning them.—Tradition gives the *Shillela Oak* the honor of roofing Westminster-Hall and other buildings of that age; the timbers which support the leads of the magnificent chapel of King's College Cambridge, which was built in 1444, as also the roof of Henry VIII<sup>th</sup>'s chapel in Westminster-abbey, are said to be of oak brought from these woods, and I think it by no means improbable, that the superior density and closeness of grain which is the character of the *Irish Oak*, particularly in high situations and a dry soil, as may appear by comparing its specific gravity with that of other Oak, added to the inattention of the

the Irish at that time to the article of *bark*, which permitted their oak to be felled in winter, when *free from sap*, might have induced the English Architects to give it the preference in such material works; and it must be allowed that the present unimpaired state of these roofs, after so many centuries, seems very well to warrant this conjecture.

It is generally understood that a sale was made of some of the finest Timber of *Shillela* which remained in Charles II.'s time, into Holland for the use of the Stadt-house and other buildings, constructed on piles driven close together to the number of several hundred thousand. In 1669 William Earl of Strafford furnished Laurence Wood of London with such pipe staves, to a great amount at 10*l. per thousand* as are now sold for *fifty*, and are only to be had from *America*. The year 1692 introduced into *Shillela* that bane of all our timber, *iron forges and furnaces*; and as the parties were allowed to fell for themselves several thousand cord of wood yearly, and were only confined to a particular district, they  
cut

cut whatever was most convenient to them for the purpose, and it is inconceivable what destruction they must have made in the course of *twenty years* which was the term of their contract. I find by a memorandum in my possession relative to some of my own woods, that in 1666 many thousand cord of wood sold at *4d. per cord* which now sells on the same ground for *7s. 6d.* however the iron works left some very noble trees still standing, as we see by the sale of Mr. *Siffon's* tree before mentioned, which produced two large mill-shafts, and upwards of 200*l.* for the remainder of the timber when sawed into coach pannels; and it also appears from a paper in the hand-writing of *Thomas Marquis of Rockingham*, found amongst the papers of his son the late *Marquis of Rockingham* (who to his numerous amiable qualities and endowments, added a great knowledge of rural œconomics, as we find not only from the management of his grounds and the desire he manifested of improving the husbandry of his neighbourhood\*, so ably communicated

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\* The desire of improving the agriculture of the country round him as mentioned by Mr. Young, was not

nicated by Mr. Young, but from several minutes of agriculture which I have seen of his own writing) that in 1731 there were standing in

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that

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not confined to his estate in England, the same patriotic attention was extended to this kingdom in a variety of ways; he gave 500l. to purchase arms for a loyal and spirited body of his tenantry who formed a volunteer association in 1779, at the moment of an expected invasion; about the year following he sent over the old *Kentish farmer*, (whose plough and general management is so much applauded by Mr. Young) to instruct such of the tenants as might wish to follow his practice: several of the implements of husbandry he introduced were found to be of singular service, and have since been adopted into very general use. When to these circumstances amongst many others of a similar nature, such as the grant of large sums to purchase provision for the poor in times of scarcity, and the liberal expenditure before-mentioned of Earl Fitzwilliam in building the Flannel-hall at *Rathdrum*, &c. we have to add, that there does not exist an instance of a single acre of the *Rockingham*, now *Fitzwilliam* estate having been ever *advertised* or offered to be let to the *best bidder*, but that his farm when out of lease is uniformly offered to the *tenant* at a fair valuation, we must allow that such *absentees* are in a great measure entitled to an exemption from that censure which others may have justly incurred; *these* leave us as little as possible to regret in their absence, but the loss of their society.

that part of *Shillela* called the *Deer Park* 2150 oak trees then valued at 8317*l.* the timber at 1*s.* 6*d.* per foot and the bark 7*s.* per barrel the same trees at the rate those articles now sell for, would have produced at least 16,000*l.* One hundred and forty of these were marked to stand for the future supply of the machinery of the iron forges and furnaces before-mentioned, they were then valued at 511*l.* but as trees now sell were well worth 10*l.* each on an average: the remainder were not immediately cut down, for in 1737 there remained 1,540 trees; 1,400 of which were valued at the above low valuation to 6,000*l.* at the present value they would have been worth 9,800 or 7*l.* a tree one with another, which must be allowed a very considerable price for such a number.

In 1780 when Mr. Wainright, Earl Fitzwilliam's present agent (to whose obliging communication I am indebted for several of these particulars) arrived in this kingdom, there remained 38 only of the *old reserves*, these had been valued two years before by Mr. Scot his Lordship's wood agent, (a gentleman eminently qualified for the office;) and he estimated them to contain

2,586

2,588 feet of timber, which at the price such gross timber would now sell for, together with the value of their bark, would make them worth 516*l.* for the 38 trees, or 13*l.* 10*s.* *each tree* on an average.—The evident symptoms of decay which from that time they began to exhibit, owing to windshakes and other disorders incidental to all old trees, who have lost a mass of shelter on every side, made it expedient to cut them nearly all down from time to time; the *last* I remember to have been felled produced at three shillings per foot 27*l.* 1*s.* 8*d.* another about the same time was purchased for the arm of a fire engine at Donane colliery, and with the rough end sawed off after the axe for which two guineas was given, produced 26*l.* 4*s.* 3*d.* there still remains one entire tree about 10 feet round at five feet from the ground, straight as a pine for 60 feet and about 6 feet round at that height; there is also in a little island in the forge pool a short trunk which measures 21 feet round.

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To succeed these however, there is a considerable number of healthy oak of a good growth for their age, in the adjoining woods of *Coolatin*, several of them about 7 feet 6 inches round with 30 feet or more of stem, and promising in time to be very fine trees, as well as some beautiful ash of a great height and 9 feet round; but the two best trees in the district of *Shillela* are in the domain of the Rev. Mr. Symes at *Ballybeg*, a very spirited Planter and great lover of trees; this is in the neighbourhood of those grounds, on which as I before observed, Thomas Earl of Strafford built his hunting lodge, by him called *Fairwood-Park\**; in these we have two objects well worth the attention of the arborist, one being an evident proof that copied

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\* It may amuse the Reader to see a description of this part of the country, at that period, and the manner in which he spent his time in it, in several of the letters of this truly great, but *unfortunate* man. In these letters which the ingenious Mr. Walpole has filed *Chef d'œuvres of manly sense and eloquence*, he will also find a refutation of most of those calumnies and misrepresentations, under which the memory of their noble Author has very unwarrantably suffered.

piced trees are capable of growing to as great magnitude and value as can be desired; the other as an instance of the very rapid growth of oak where the soil is well adapted to it—the first which I have had occasion to mention before as growing on the bank of a ditch with a forked stem evidently from an old stool, is in the very *least* spot in which it can be measured 27 feet round, from whence the two stems grow up very fair timber for a great height, one measuring 20 feet round at the butt and 7 feet at 40 feet high, the other 12 feet at the butt and  $5\frac{1}{2}$  feet round at the above height.

The second grows in a rich meadow nearer the garden and promises in time to become one of the most beautiful trees in Ireland, as its age does not exceed 80 years, and yet it is already 14 feet round at bottom and 12 at 8 feet high, the head in full health, finely formed, and extending *many yards* from the bole on every side. These two capital instances so perfectly in point with my subject, one of the *great magnitude* to which a tree growing from the old stool may arrive, and the  
the

the other of the *quick growth* of an oak where it likes the soil, must plead my excuse with my brother Planters, if I have detained them too long in the woods of *Shillela*, and deviated in my detail somewhat more into the habits of the *Antiquarian*, than may be allowable in a work of this nature.

There are some considerable Scots-fir at *Ballybeg* for their age, and at Mrs. Symes of *Hillbrook* not far from thence, many measure 7 feet round at five feet from the ground, and 5 feet at 50 feet high; one felled in its 70th year was 77 feet six inches in length of clear timber, and measured 6 feet 6 inches round at 50 feet from the ground.

*Shelton*, the seat of Lord Viscount Wicklow, near Arklow is finely wooded; we may see there a witch elm 16 feet round at bottom and 15 feet 3 inches at 6 feet from the ground; seven beech whose dimensions are from 15 feet to 13 feet 9 inches round; and upwards of *sixty* from the last size to 10 feet round, many of these of great

great height carrying the above girths for more than 40 feet.

The beech is not a native of Ireland ; those at *Shelton* appear amongst the first which were brought into this kingdom, and from their mast, most of our finest beech have been propagated.

At the southern extremity of the domain of *Avondale* near *Rathdrum*, there is an oak standing, which though only fourteen feet round at five feet from the ground, was valued at more than 25*l.* before the year 1776. The head which was of very great height and extent, consisted of seven principal branches, each very gross and finely formed for ship timber ; a violent storm in the above year tore off four of them near the trunk, where they were about six feet round ; this has greatly lessened the value of the tree, but from the vigorous growth and great height of the three remaining branches, which rise from the centre, it is still a fine object ; and as the bark is now covering the parts  
where

where the wounded branches were sawed off, I flatter myself, it may yet make a very considerable tree.

The same storm threw down a very fine old *A/b*, which grew nearly surrounded with water on the bank of the *Avonmore*, about one hundred yards from the *Oak*. The trunk, when sawed off the butt which still remains in the water, was above 14 feet round, and carried nearly the same dimensions for eighteen feet.—Of one plank I had a table made for my servant's-hall, and though the tree had grown for many years full three parts in four of its stem in water, it is by far the best and firmest wood of its kind I ever saw, of great weight, beautifully branched like mohogany, and capable of receiving a considerable polish; near this grew another remarkable *A/b* with a very lofty stem and great head, but much covered with ivy, it was my misfortune to attend to those who advised me to have the ivy cut off for the good of the tree; from that moment it seemed to decay, and the second year scarcely put out a leaf; I do not recollect its dimensions, but I know that one length of its stem sold at 1s. 6d. per foot,  
for

for 5l. 12s. for the purpose of making bel-  
lows for furnace, and the remainder brought the  
whole value to about 10l. This, though cer-  
tainly a considerable produce for an ash tree, we  
shall find hereafter greatly exceeded by the sale  
of some others in the neighbourhood of Dublin.

Near the bridge of *Rathdrum* is a most pic-  
turesque *Sycamore* above 11 feet round, and at  
two miles from that town on the road to Shillela,  
there was lately belonging to Thomas King, Esq;  
a still greater tree of that species, being 15 feet  
in circumference, with the most beautiful head  
in proportion; this was the largest sycamore I  
ever saw; the best now in the county is at *West-  
aston*, the seat of Thomas Acton, Esq; where  
in general the trees are of very considerable mag-  
nitude.

*Dunganstown* the estate of William Hoey,  
Esq; contains several very fine trees of different  
species; but an old avenue of *Spanish chestnuts*  
which stood in the domain 'till this summer 1793  
for 110 years, contained amongst them some of  
the finest specimens of that charming tree, which

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I ever met with—they are now no more—but I must do Mr. Hoey the justice to say, that he withheld his consent to their being felled, till they exhibited such symptoms of decay as rendered them no longer *ornamental*. I took a last view of them as they lay on the ground, after all their branches had been lopped off and carried away; from their size, form, and greyish colour, they strongly reminded me of the description given by travellers, of huge *crocodiles* sunning themselves on the banks of the Nile. I measured the three first I came to, one was 16 feet 6 inches round, another 15 feet, and the third 14 feet 3 inches; the length of one 36 feet, and of another 24, and 12 feet round at the *smallest end*.

Having viewed these remains for the last time, with *great regret*, I had the pleasure of finding an admired line of *Yew trees* in full vigour, as remarkable for their *form* as the chestnuts had been for their *size*, this consists of about 30 trees, most of them 6 feet round, perfectly straight and smooth in the stem as a young ash tree, for about 7 feet 6 inches from the ground; where they  
begin

begin to throw out branches, and thence continue a rich close mass of green foliage for full 25 feet above their clear stems, resembling a considerable superstructure raised over a regular colonade—had such a growth of *yew* been common in this kingdom in the days of archery, we should not have wanted acts of parliament requiring the importation of *yew bow-staves* from *Spain*.

Every species of myrtle seemed formerly almost indigenous at *Dunganstown* ; I have known the narrow leaved Italian in full flower there, above 16 feet high :—Of two old stems I measured last summer, one was 17 inches round, the other was within one inch of two feet, or eight inches diameter. The most promising tree now here is an *Ash*, 12 feet round with a straight stem, and quite clear of branches for 30 feet, where it measures 10 feet round, and the arms extend in beautiful forms 28 yards.

At *Rossana* the seat of Mrs. Tighe, and on the estate adjoining, we have several specimens of fine timber ; amongst these the *Milltown oak* is

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most



most considerable; till very lately the head had scarcely lost a single branch, and formed a huge canopy of 36 yards extent over a clear stem 19 feet round, and 9 feet high : yet notwithstanding these very great dimensions, I have good reason for being of opinion, that this tree has not grown from an acorn *without transplantation*; from several circumstances it appears to have been once a *breast-quick* in the face of a ditch.

At *Mountusber* there are some great ever-green oak, from 6 to 8 feet round, the wood of which is hard beyond conception and seems incapable of decay; but the *Silver fir* next the house are particularly deserving of our notice, as the largest trees of their species I have ever seen; one measuring 12 feet round, the other 11 feet 6, upwards of 100 feet high, and carrying nearly the same girths for 36 feet.

Considerable as the magnitude of some of the above forest trees must be allowed to be, we know they are *exceeded* by several of the same kind

kind in England\* ; but the following dimensions of a fruit tree, and a flowering-shrub both now standing in the county of *Wicklow* have scarcely been any where equalled ;  
unless

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• I have selected out of many others the following instances of extraordinary size and great value of some Oaks now standing in England, as likely to be acceptable to such of my Readers as may not have had an opportunity of viewing the trees, or perusing the works from which the following particulars are extracted :

The SWILCAR OAK in *Needwood Forest*,

Measures 21 feet in circumference at 5 feet from the ground.

SIR WALTER BAGOT'S WALKING-STICK,

Measures 16 feet round at 6 feet from the ground, 35 feet of clear stem, then 40 feet of branches and a clear stem over that for a considerable height, valued at 60*l*.

Duke of PORTLAND'S WALKING-STICK, at *Welbeck*,

Circumference at bottom 21 feet, at a yard from the ground 14 feet, 111 feet high, contents 440 feet of timber.

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unless we admit the chesnut *di centi cavalli* on Mount *Ætna* to be produced as one of the former class. The fruit tree I allude to, is a  
*cherry*

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THE DUKE'S PORTERS at *Welbeck*.

Circumference of one at bottom 38 feet, at a yard high 27 feet, height 98 feet, contents 840 feet : circumference of the other at bottom 34 feet, at a yard high 23 feet, 88 feet in height, contents 744 feet.

PARLIAMENT OAK in *Clifton-park*,

Measures 28 feet 6 inches at a yard from the ground.

BIRCHLAND OAK in *Sherwood Forest*,

Measures 27 feet 4 inches round in the *smallest* part.

MIDDLETON OAK,

Measures 20 feet round at 3 feet—25 feet clear stem, then several tire of branches, over that a clear stem of 15 feet which makes the whole stem 65 feet—50l. has been long since refused for this tree.

SHIRE OAK in Earl FITZWILLIAM'S PARK at *Wentworth*,

Height of the stem 50 feet, by what dimensions in circumference I cannot exactly state, but there is 306 solid

*cherry* at the Rev. Mr. Truel's at *Clonmannin*;  
which measures 15 feet round the stem at 5  
from the ground, it is in perfect health and  
full

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lid feet, in 25 feet of the grossest part, which is valued to  
61l. 5s. 6d.—value of the whole tree 111l. 15s.

HOLT FOREST OAK near *Bentley*,

Measures 34 feet in circumference at 7 feet high.

LORD PETRE'S CHESNUT at *Writtle* in *Essex*,

Measures 46 feet one inch round at 5 feet high, or  
full 15 feet diameter.

LORD DUCIE'S CHESNUT at *Totworth* in *Gloucestershire*,

Measures 46 feet 6 inches in circumference at 6 feet  
from the ground.—This tree is supposed to be 1100 years  
old, having been called the *Great Chesnut* in the reign  
of King John.

THE COWTHORPE OAK near *Wetherby*,

In circumference close to the ground 78 feet, at 3 feet  
from the ground 48, its height in the shattered state it is  
now in, 85 feet, its principal limb extends 16 yards from  
the trunk—for further particulars of this truly wonderful  
tree, I refer the reader to the last edition of Evelyn's  
*Sylva*, by Mr. Hunter, where he will find a sketch &c. of  
it made on the spot by my ingenious and amiable friend  
*William Burgh*, of York, Esq;

full bearing, the fruit very finely flavoured, of the *Upton-mazard* kind.

The shrub which I hold to be the most singular in this or in any other kingdom is the celebrated arbutus at *Mount-Kennedy*, the charming seat of our present Commander in Chief, already noticed by Mr. Fortescue in his hints on planting, and by Mr. Young in his tour through Ireland. The stem below its first division as measured by Mr. Fortescue in 1773, was 13 feet 9 inches round, it had been planted in a small garden enclosed with high walls at a period previous to the present century; as the castle was destroyed towards the end of the last, this ascertains its age to exceed *one hundred years*.

General Cuninghame in dressing his domain found it necessary to take away the walls and level the ground of the old castle garden, which exposed the arbutus to storm on that side where it had been sheltered for so many years, and where from its situation near the wall no great  
roots

roots had been formed, the consequence was, that in a high wind about twenty-two years ago the root was torn up, the trunk split in two, one half nearly buried in the ground, and the other forced into a very oblique position, greatly mutilated indeed, but still thro' skilful management very beautiful; fresh healthy shoots having sprung up from the branches, where they have been inserted in the ground in the manner of *layers*, and some young plants introduced amongst them, so as in the whole to make one of the most pleasing groupes or masses of this charming species of evergreen, which is any where to be met with. I measured it on Christmas-day 1793; the principal stem now standing, which, as I said before, is but barely half the tree, is 8 feet in circumference, this divides into four branches, one of which is 4 feet 10 inches, and the smallest 3 feet round; a branch which was sawed off at 9 feet from the trunk, measures 2 feet 9 inches at the small end; the whole was then in full beauty of foliage berry and blossom *at once*.

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I have often visited this extraordinary tree, for who has ever been *once* at *Mount-Kennedy*, that did not wish to go *again*, and I never viewed it but with *increased wonder and delight*.

*Tiny-Park*, the seat of Sir Skeffington Smyth, Bart. affords many objects well worth the attention of the arborist; we here find an *Ash* in a very exposed situation, on the bank of a ditch evidently growing from a transplanted tree, and that once *cut down*, the circumference of which in the *smallest* part of the trunk somewhat exceeds 19 feet, or 6 feet 4 inches diameter.— There is another near the old house which has been very beautiful, but is now much decayed; it measures 13 feet round, and carries that size with a straight clear stem for about 25 feet.— A third on the top of a dry bank overpowered with ivy, is 18 feet in circumference; there are three noble *Beech* together, the *smallest* 14 feet round, the next 15 feet 6 inches at the butt, and 14 feet 8 inches at 7 feet from the ground; the third, which is one of the most beautiful and fairest trees imaginable, is 16 feet 3 inches round, and continues nearly of that girth for  
36 feet

36 feet high. There are many Portugal laurel from 4 to 5 feet round, and abundance of common laurel above 6 feet in circumference ; some with clear stems for 16 feet high. I measured one of 7 feet round or 2 feet 4 inches diameter whose stem and branches together were above 36 feet in height. There is a *Scots-fir* of 10 feet round whose bulk is continued for 25 feet, a spruce fir 8 feet in circumference and of the same girth for 20 feet, and considerable timber for 50 feet more, and another 9 feet round, of very great height, yet the head perfect and beautiful, with all its branches weeping, which in spruce-fir is a mark of luxuriant health.

At *Ballygannon*, the seat of J. P. Scot, Esq ; is a variegated silver holly remarkably beautiful from the richness and closeness of its head, the stem is about five feet round, and the whole 28 feet high.

There is a fine specimen of the *Pinus Sativa* or true *Stone Pine* at *Old-court*, the seat of John Edwards, Esq. the stem is very gross, straight, and free from knots for a considerable height,

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with



with a great branching head; it grows near an old castle, and gives the scene an appearance of what we may find in some of the landscapes of Pouffin and Claude Lorraine

At *Kilraddery* the antient seat of the Earls of Meath, are several very large evergreens of various kinds and of great beauty; the *Ilex* in particular, grows here as well as in any part of Italy.

In Lord Powerscourt's romantic park which contains the celebrated waterfall, the growth of the old *Oak* adds much to the picturesque scenery; he has also some fine trees nearer *Powerscourt*: I measured one *Ash* with a clear stem of 20 feet in height, which was 15 feet in circumference.

Having now finished the survey I proposed of the maritime side of the county of Wicklow, I shall present the reader with the result of my enquiries in the county of Dublin; and first,

At

At *Old Connaught* near *Bray*, there are some *Bay traes* of extraordinary size, several of them 8 feet in circumference, and till last year there was one whose stem exceeded 11 feet in girth or 3 feet 8 inches diameter.

At *Loughlinstown* there is an old *Elm* of great size and formerly of considerable beauty, and well placed on a high knoll, but in dressing the ground some time since, the roots have been injured, and all the branches have decayed in consequence. There are some very large ash in the Earl of Ely's park at *Rathfarnham*, but by far the finest trees in the neighbourhood of Dublin are at *Luttrelstown* the seat of the Earl of Carhampton, whose good taste in rural decoration has done justice to the many natural beauties it possesses; I have scarcely any where met with so many trees of different kinds which have attained to such great bulk as here—in 1793 I measured a *Scots-fir* eighty-five years growth from the seed, of 11 feet 6 inches in circumference, and another of very great height 11 feet 10 inches round or 4 feet diameter, which I believe exceeds

exceeds the dimensions of the largest foreign deal ever imported into this kingdom ; these stand amongst oak and other trees on very high ground though flat at top for a considerable extent, and must when young have been greatly exposed to storm ; several *Ash* in a valley measured from 11 to 13 feet 6 inches round, and were of an extraordinary height ; one of these sold since I measured it for 13l. some time before an *Elm* beginning to decay was sold for 16l. ; but the celebrated *Elm* by the road side is still in perfect health and beauty, measuring fairly 18 feet 10 inches round the butt, and 14 feet 4 inches at 8 feet from the ground, and is very gross timber for 40 feet more.

Before I quit *Luttrellstown* I must mention a circumstance which I do not recollect to have noticed elsewhere, viz. a vigorous growth of young *Sycamore* from the keys of different ages and size, up to 20 feet high or more amidst *old Scots-fir*, and in a great measure *under their drip* ; this may give a hint for the embellishment of *Scots-fir* groves, which are in general a most disagreeable

disagreeable object when they begin to decay, and have been hitherto considered as almost incapable at that time of supporting any other tree.

At *Leixlip Castle*, the estate of the Right Honourable Thomas Conolly, there is a row of *Ash* trees, 18 in number, which deserve attention for their uniform great growth, on a very bleak exposure, they measure from 9 to 12 feet round, with fair stems of considerable height, and fine branching heads.

Not far from hence at *St. Wolfans*, in the county of Kildare, the late charming residence of the learned and ingenious Bishop of Killaloe, to whose obliging communication I am indebted for the following particulars, stood an *Elm* which till the year 1762, was perhaps the finest tree of its species in the world; the diameter of the head taken from the extremities of the lower branches exceeded 34 yards; but in the autumn of that year the two principal arms fell from the trunk in one night, apparently from their own weight,

weight, as the weather was perfectly calm; the timber contained in these branches alone sold for 5 guineas; in this situation the tree continued till the winter of 1776, when a violent storm tore up the whole by the roots with a great mass of soil and rock adhering to them. Some time previous to this the trunk had been carefully measured and was found to be 38 feet 6 inches in circumference; it had been hollow for some time, and the value of its timber by no means answered what might have been expected from the sale of the two branches in 1762; we have nothing certain as to its age, but tradition supposes it to have been planted by the Monks of *St. Wolfstan*, some time before the dissolution of that monastery which happened in the year 1538.

After regretting the fall of this colossal tree, the reader will learn with pleasure, that not far from *St. Wolfstan*, at *Carton*, the magnificent domain of the Duke of Leinster, through whose polite attention I was favoured with the measurement, there now stands in full health an *Elm* 14 feet 8 inches round near the bottom, or 4 feet 10 inches

inches diameter, and thence gradually diminishing like the shaft of a doric column, being 13 feet in circumference, or 4 feet 4 inches diameter at 16 feet from the ground, and containing in the whole 169 solid feet of timber, with a fine head and in great vigour.

Very different from the perfect state of this beautiful *Elm* is that of the old *Ash* of Donirey near Clare-castle in the county of Galway, as communicated to me by Mr. Hardy, (inspector of claims for premiums offered by the Dublin Society) who is himself a very skilful arborist, and from whose great fidelity in his reports, the following dimensions may with certainty be relied on: at 4 feet from the ground it measures 14 yards or 42 feet in circumference, which is 14 feet diameter; at 6 feet high, 33 feet round, or 11 feet diameter: these dimensions nearly equal the celebrated *Cowthorpe oak*, but the trunk has long been quite hollow, a little school having been kept in it about 25 years ago; there are but few branches remaining, but these are fresh and very vigorous.

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I feel much indebted to the Earl of Defart for the trouble he was so obliging to take in procuring me the following measurement of some of the very fine trees which ornament his antient seat in the county of Kilkenny.

I have selected a few only of each kind out of a list containing many more of nearly equal size, viz :

Six *Oak* from 12 feet to 16 feet 3 inches in circumference.

Six *Ash* from 11 feet 3 inches to 13 feet 4 inches in ditto.

Six *Elm* from 9 feet 6 inches to 10 feet 8 inches, ditto.

Six *Beech* from 11 feet to 12 feet round ; these no doubt are fine trees, but what I think more remarkable, are

Six *Spruce-fir* from 9 feet 6 inches to 10 feet 6 inches in circumference. I had often heard these *fir* mentioned as the finest trees of their species in the kingdom, and was happy to find that

that they are still in being. There are few soils in which the *spruce-fir* will attain the above size ; in general they decay at a much earlier period, nor is this tree inclined to grossness of stem so much as the *Silver* and *Scots-fir* in proportion to its height. The same may be said of the *Larch*, I have seen some of great age and prodigious height in the Alps, but never of extraordinary bulk ; we shall find this difference in our own plantations, even where the *Larch* grows with the greatest rapidity in the beginning ; amongst other instances which I am acquainted with, I find at Charles Bury's, Esq; at *Charleville* in the King's county, where there are abundance of fine *Larch*, that few exceed 6 feet 6 inches round, whilst the *Silver-fir* of nearly the same standing, measure from 8 to 10 feet in circumference.

Near *Kennity Church* in the King's county is an *Ash* celebrated for its great dimensions and for certain religious ceremonies which have for many years been observed with respect to this tree, close to which the lower class of people when passing by with a funeral, lay the corpse



down for a few minutes, say a prayer, and then throw a stone to encrease the number, which have been accumulating for years round the root; its circumference is 21 feet 10 inches, or 7 feet 3 inches in diameter, the trunk 17 feet high before the branches break out, which are of great bulk, some of them as gross as the body of a horse; For the above particular account I am obliged to Thomas Bernard, Esq; of *Castletown*, on a part of which this extraordinary tree is situated.

We have another specimen of the great growth of *Ash* at *Kilmurry* the glebe of the Rev. Mr. Huleat near Roscrea, who was so obliging to have it measured at my desire; round the butt near the ground it is 27 feet, at 3 feet higher 25 feet in circumference; the height of the trunk is about 13 feet, but the branches very much decayed.

If the magnitude of several of the individual trees before-mentioned appears to the reader in that light in which in truth it ought to do, considering

sidering the many chances there are against a tree ever attaining it, from the great length of time necessary, and the various accidents to which it is exposed during its early growth, and still more from *avarice* and caprice at a more advanced age; his admiration will greatly encrease, when he is informed, that their several dimensions are nearly equal'd by those of eighteen trees in *one demesne*, which is the fact at *Curraghmore* the princely seat of the Marquis of Waterford, from whom I have had the honour of receiving the following particulars of measurement accurately taken at my request in the course of this April 1794 :



## S I X A S H.

Height of clear stem.		Round the butt.		Round the top of the trunk, at the height before measured.	
Feet.	In.	Feet.	In.	Feet.	In.
No. 1—17		16	- 6	9	
2—14		18	- 9	16	- 6
3—15		22	- 6	20	- 4
4—15		23		18	
5—13		24	- 6	20	- 3
6—13	9	33	- 9	22	- 6

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## S I X B E E C H.

Height of clear stem.		Round the butt.		Round the top of the stem.	
Feet.	In.	Feet.	In.	Feet.	In.
No. 1—18		12		6	
2—14		12	- 10	8	
3—15		13		7	- 6
4—14		13		8	
5—20		13	- 6	6	
6—14		16	- 6	14	

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## S I X O A K.

Height of clear stem.		Round the butt.		Round the top of the stem.	
Feet.	In.	Feet.	In.	Feet.	In.
No. 1—21	- 6	14	- 4	11	- 5
2—27		15	- 4	11	- 5
3—23		17		10	
4—23	- 9	17	- 6	10	- 4
5—23	- 6	17	- 6	10	- 6
6—25		21	- 9	12	

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When to the above we might add above 200 more trees in the same demefne, which meafure from 10 to 14 feet round, we muft allow that *Curraghmore* is as unrivall'd in this, as in feveral other circumftances of magnificence and beauty.

I have the pleafure to find that the celebrated *Holly* in *Ennisfallen-ifland* in the *Lake of Killarney*, mentioned by Mr. Fortefcue, is ftill in perfect health and vigour; it was meafured this prefent year by William Caldbeck, Efq; in company with Chief Baron Yelverton, and proves to be nearly 15 feet in circumference, the ftem about the fame height, and the branches very confiderable.

From feveral inftances which have fallen within my knowledge, I might fairly affert that the longevity of certain fpecies of *Evergreens*, and the great magnitude to which they arrive is in direct proportion to the *flownefs* of their growth. I have never feen any of the Fir or Pine tribe, all allow'd to be quick growers, ever equal to the above *Holly* in dimenfions, which though of very flow growth muft yield on the other hand  
in

in point of size to a tree of still slower, viz. the *Few*; many of which I have seen in England full as large again as the above *Holly*.

We had several fine specimens of this tree formerly in Ireland—in the mountainous parts of the county of *Wicklow* it was certainly *indigenous*, and still grows in a few spots which are luckily inaccessible to mischievous cattle, and avaricious land-owners—there was within these fifty years a single *Few-tree* adjoining one of the seven churches in *Glandabough*, from whose lofty trunk, about 16 feet round, extended on every side a mass of close branches, which shaded from the sun, and sheltered from every inclemency of weather, the picturesque ruin it adorned, and *all* the church-yard. This I have had from the indubitable authority of several who still well remember it, when in its full beauty, on a hot summer's day, at a time that numbers were regaling themselves under its shade, a gentleman of the party, who pleaded the authority of an agent to the See, (but whose employer I am persuaded could not have ever viewed the scene),  
had

had all its principal limbs and branches sawed off, close to the trunk, for the *value of the timber*—from that time to the present, which may be about forty years, the poor remains have been in a constant state of decay ; it has scarcely put out a branch, the bark has fallen off, and a large *Holly* is growing up through the fissures of the stem ; so that I consider it too far gone to enumerate it amongst the large trees still standing in the county of Wicklow.

We may see a fine *Tew* which has met with a better fate at *Fornace*, the seat of Richard Neville, Esq; in the county of Kildare ; the stem, which is very clear for this species of tree, measures 12 feet round at 6 feet high ; the branches extend 66 feet, and add much to a pleasing sequestered scene near an old ruin, amidst *Holly* and *Laurel* of extraordinary bulk and great height.

At the Earl of Courtown's admired retreat in the county of Wexford, there is a very fine *Ash* which in point of beauty would now have equall'd any in the kingdom if a part of its

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great

great head had not been cut away to prevent injury to the dwelling-house, close to which it stands ; it is 15 feet 2 inches round and carries nearly that size for 13 feet in height ; the main branches are very gross for 26 feet from the bole, and beyond that there is still a considerable length and great quantity of saleable timber ; it is supposed to have attained this bulk within 90 years, and it is a circumstance well deserving the planter's notice, that during a great part of that period this tree must have been exposed to violent blasts from the *sea* ; but here I cannot help observing, that amongst other uncommon charms, *Courtown* possesses one in a very superior degree, viz. that of a vigorous growth of timber almost to the water's edge on the *sea shore* : so that within a few yards of a sequestered inland scene, where a clear stream winds beautifully through a wooded valley, you may take shipping to any part of the world ; nor need you wait long for an opportunity, particular circumstances of anchorage, &c. inducing most vessels in their passage along this coast, to cast anchor for  
some

some time in that spot which terminates a vista from one of the drawing-room windows.

I have long observed the *Ash* to be capable of arriving to the utmost perfection, in a greater variety of soils, and bearing a more severe exposure than any other tree ; I do not recollect this quality to have been taken notice of by any arborist amongst the many excellent ones it may with justice lay claim to, if we except *Spencer's* negative compliment in the *Fairy Queen*, viz.—

“ *The ash for nothing ill——.*”

which certainly would imply a great deal, if we had reason to think he had any thing farther in contemplation than the excellence of the *timber*. I have described the *Ash* at *Avondale* growing to 14 feet in circumference, or above 4½ feet in diameter in the edge of the *river* ; that at *Courtown* is within the influence of the *sea*, whilst those I shall now mention at *Arles church* in the *Queen's county* are growing in a *dry* soil, on a high knoll or sort of *Barrow* open on every side to the *storm* blowing over a long tract of flat country ;



try ; nor could they from their first planting have ever enjoyed the *least shelter* ; add to this that they are elevated on the top of a steep bank in a single row round the church yard, and were in all probability planted of such a size as to be at once out of the reach of cattle, notwithstanding all these circumstances against them they are very fine trees ; of *two* I measured, one was 10 feet round in the smallest part of the bole, the other 11 feet 6 inches at 6 feet from the ground, but these (as has been said of the other trees of England in comparison with the *Cowthorpe Oak*) are but mere *children of the forest* when compared with the *ash* of *Leix* in the same county. This celebrated piece of antiquity stands on the high road between Monasterevan and Port-Arlington, and though it has long ceased to have any pretensions to *beauty*, is still one of the most *picturesque* and *magnificent* objects of the kind I have ever met with ; I measured it in April 1792 ; at one foot from the ground it was 40 feet 6 inches round, and at 5 feet higher which is actually the *smallest* part of the trunk it is full 25 feet in circumference or 8 feet 4 inches diameter ;  
 this

this massive stem is full 9 feet high, but the enormous grossness of the branches at their springing from the bole, and the *horizontal* position which most of them immediately take, make the stem appear much *shorter* than it really is.

At some paces from this venerable antient, whose branches though much mutilated, extend full 70 feet, stands the *small* tree of *Leix*, as it is called, though it is 14 feet 4 inches round in the *smallest* part you can measure, it grows on the top of a dry bank, part of the fence of a church-yard, in a situation I should hardly have thought favourable to that rapid growth which its appearance indicates; it is by no means an *old* tree, and if suffered to remain, may in process of time even exceed the bulk of its present companion. The lover of trees will hear with pleasure, that it is in no danger of falling at this time, being on the estate of the *Earl of Port-Arlington*, an excellent arborist and one of the most extensive planters and improvers in the kingdom :— On viewing the works which have lately been carried on in his demesne of *Émo-Park*, and a  
very

very great house now building, I was at a loss which to admire most, the extent and boldness of design, or the pleasing effect resulting from the taste and judgment with which it is carried into execution.

There are several *Scots-fir* here from 8 to 9 feet in circumference, standing single with clear stems from 20 to 30 feet high, and large wild branching heads, but richly clothed with leaves ; in this state the *Scots-fir* or *Pine* becomes a very *picturesque* tree, and in some situations highly ornamental. There are also several fine *Beech*, *Elm* and *Lime*, and a handsome *Yew-tree*, with a good head and clear stem 8 feet round ; but the lovers of coppices and planting, will be still better pleased to find some acres of hop-ground, part of which has borne fine crops for many years ; and what has been lately planted promises as well as possible for the time. The growth of *hops* and attention to trees go hand in hand, these two species of improvement mutually assist each other, and Lord Port-Arlington has found his hops to be profitable beyond expectation.

At

At *Rathleague*, the seat of Sir John Parnell, Bart. though the traveller's attention is naturally attracted by a beautiful piece of water, decorated with extensive plantation, and a handsome doric Temple on its banks—he may find in the more sequestered part of the demesne, some very considerable trees ; there are many *Beech* from 9 to 7 feet round with straight clear stems, of extraordinary height ; and several very fine *Oak*, amongst which I measured one of 9 feet round, as growing in my opinion from a transplanted tree which had been headed close down at the time of transplanting ; there are also very large *Wyche-Elm*, and *Ash* : But Lord Ashbrook at *Castledurrow* possesses an *Ash* which I think on the whole is the most ornamental tree of its species that has ever fallen within my observation—it measured in October 1793, 18 feet in circumference or 6 feet in diameter, and carried nearly the same dimensions for 14 feet, the branches extending 45 feet from the stem in almost every direction, and would in *all*, but from part being shortened on one side in favour of an out office unfortunately built too near this beautiful tree, which

which in fact deserved to have every circumstance in its vicinity considered as a *secondary* object.

I have often observed that the growth of white-thorn in *Ireland* far exceeds any I have ever met with on the other side of the water; there are in this neighbourhood at Robert Stubber's, Esq; at *Moyne*, several white-thorn of 7 and 8 feet circumference with heads finely formed, and great in proportion, so that when in flower there can be nothing more beautiful; I measured one 5 feet 4 inches round the stem at 9 feet high, the branches extending thirteen yards. Another 7 feet 6 inches round the stem in the *smallest* part, the head entire, and covering a circle of 36 feet diameter, and a third whose branches extended round a very fair stem 24 feet on every side; this last is one of the most beautiful thorns I ever saw; but the largest I recollect to have ever seen, is at Lord Gormanstown's in the county of Meath; it was about 10 feet in circumference several years since, it stood in the high road, and had received some injury and  
was

was hooped round with bands of iron when I last saw it, so that perhaps it may have since decayed.

Sir Robert Staples's demesne at *Dunmore*, amongst other pleasing circumstances, possesses some fine old oak, many of them 12 feet round from old stools: the banks of the *Nore* in general afford a good growth of timber for some miles adjoining; but the finest trees by far are at *Abbeleix* the seat of Lord Viscount De Vesci; we may here find an *Oak* of 20 feet 6 inches in circumference, or nearly 7 feet *diameter* at a foot from the ground, and 16 feet 9 inches round at 5 feet 3 inches high, and a horse chestnut whose rich foilage forms a spreading canopy over a circle of 72 feet *diameter*.

With these two beautiful specimens of great perfection in their kinds, not unworthy of the charming place\*, in which they are situated, I

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shall

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\* The growth of timber in general at *Abbeleix*, is equal to some of the best wooded demesnes in England, and no where

shall for the present close my detail, which I fear has been already *too circumstantial* for the generality of readers, and on the other hand, not sufficiently

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where is the *useful* and *agreeable* more intimately blended, than on the surrounding estate. Amongst many other pleasing circumstances, we are often reminded of that selected as an object of delight by Milton in his *Allegro* :—

“ *Hard by a Cottage chimney smoaks,  
From betwixt two aged Oaks.*”

The education and useful employment of the infant poor, is *here*, as at *Rossana* and *Bellevue*, in the county of *Wicklow*, interwoven with the morning amusements of the place, whilst the comfortable, and at the same time *picturesque* cottages, with their accompaniment of *eglantine* and *honey-suckle* in the little-paled in gardens, at once *decorate* the scene, and afford *real comfort* to a happy tenantry.

To the honor indeed of the present age, the amusements and studies of several of the first rank in this, as well as our sister kingdom, are such, as conduce at once to the ornament and improvement of their respective countries. Our amiable Sovereign is not only an extensive planter, but amongst other branches of useful information, which he is eminently possessed of, is considered as one of the most scientific botanists in Europe.

The

ficiently *full* in the eyes of those who may perhaps justly think that they are acquainted with trees which deserve to be noticed *as well* at least, if not *better* than some which I have described : to the first I must observe, that in thus particularizing such remarkable trees as fell within my observation, I have only followed the example of the much approved and ingenious author of the *Sylva* : I have attempted (though at a great distance I confess indeed in *every respect*) to do at this time in Ireland, what Mr. Evelyn did in England at the close of the last century, from an opinion, that nothing would *more* conduce to the advancement of those objects for which he had

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undertaken

The first nobility, and highest in office in England, pride themselves on the character of *good Agriculturists*, and *spirited improvers* ; several of the same class with us furnish examples equally *worthy of imitation*. The Duke of Leinster, Marquisses of Waterford, Downshire, and Abercorn, Earls of Shannon, Charlemont, and Port-Arlington ; Lord De Vesci, Lord Mountjoy, the Speaker, Chancellor of the Exchequer, the late Teller Mr. Conyngham, and our present Commander in Chief, afford, amongst very many others, the strongest proof of the truth of this assertion.



undertaken his work, viz. the *encouragement of planting, and preservation of woods*, for the supply of *timber for the navy*.

Exclusive of a natural inclination to follow such very respectable authority, I had another inducement for registering the measurement of a considerable number of trees, which was the consideration, that by so doing alone, the growth they may make within a certain period, can possibly be *ascertained*, in order to resolve that very material question in rural œconomics, and very intimately interwoven with my subject, viz.—whether after a given time, it is adviseable to suffer a timber-tree to *stand*, where *profit alone* is the object? we have already seen that an *Oak* is in a state of encreasing value, almost in geometrical progression from forty to eighty years growth: what I have done, may in a few years hence by having fresh measurements taken, very well ascertain how long *after* that period its value continues to *encrease*. These considerations, I hope, will excuse me to such as might otherwise think I had dwelt too long on a matter of  
mere

mere curiosity.—To those who may suppose that I have despised their groves, and slighted their favourite dryads, I flatter myself I need say no more to obtain a better opinion of me, than barely to assure them, that *want of time*, and in consequence a want of sufficient materials, has been the sole cause of this apparent neglect ; and that if I shall at any time hereafter, be favoured with such information as may enable me to do justice to those specimens of fine timber now standing, which have not already fallen within my notice, I shall take another opportunity of making a proper use of it, and will thankfully acknowledge the obligation.



## ON THE RAPID

## GROWTH OF TREES IN PARTICULAR SITUATIONS.

AS the foregoing examples of extraordinary magnitude and value of trees after a certain age, were intended for the consideration of the *wood-owner*, as evident proofs of the advantage resulting from the *preservation of timber* to a proper age, and of leaving a sufficient number of *reserves* at every fall ; the following instances of the extraordinary quick growth of several trees of different species, are selected out of very many others, as most likely to encourage the exertions of the *Planter*, by giving him an assurance of enjoying within a reasonable period, the fruits of his labour.

One of the most remarkable which I have been made acquainted with, was an *Oak* at *Cabirnanee*, near the celebrated Lake of Killarney, the seat of R. T. Herbert, Esq; which, in the year 1739 would have been cut for the purpose of twisting into the back-band of a cart, but from the carter's taking notice of its superior height  
and

and beauty, to several others of the same age at that time surrounding it, none of which could have exceeded eight years from the acorn — In the year 1785 some mischievous person stripped off the bark nearly all round the stem: Mr. Herbert considered the tree as irrecoverably lost, but it was so beautiful at the time, that he suffered it to stand for another year; it was then felled, when the bark produced little short of *three pounds*, and the timber was valued to as much more, so that the tree in its fifty-sixth year was worth 6*l.*; which is full double to what I have estimated a tree of that age in any preceding calculation. — It is worth observing, that the timber proved hard and solid like that of a tree which had continued a considerable time at a stand, though it was in such vigour, and fine state of growing the year before it was felled; this is only to be accounted for from the sap having ceased to flow freely, from the time when the bark was stripped off; a circumstance much in favour of Mons. du Hamel's directions in his treatise "*Des Arbres et Arbustes*," where he advises stripping the bark off all trees as they stand,

stand, the year previous to their fall—the superior goodness which I have always remarked in the timber of such *Fir-trees* of different species as have appeared somewhat decayed at top, or *rampiked* before they were felled, is another proof in favour of Mons. du Hamel's method; but, as on the other hand I have heard it observed that no considerable growth has ever been made from the old stools of *Oak* managed in this way: I should not indeed without more experience, recommend the practice to any extent, in such woods as we wish to preserve for future coppices. From *theory* it is natural to suppose, that a tree felled when all its sap had gone down, and was concenter'd as is the general opinion in its *root*, would be the most likely to throw up a vigorous shoot; but from long observation I can aver, that the root of an *Oak* never produces a finer growth of young wood, than when the tree is felled about the first week in *June*, in full leaf and vigour, and at the moment when the sap is most abundant in the stem and branches.—The same may be observed of the *White-thorn*; I have known many roots decay  
or

or throw out only a few weakly shoots when cut at that season when all the *sap was down* ; and it gives me great pleasure to be confirmed in the truth of this observation, by some of the most ingenious writers on subjects of rural œconomy of the present day\*.

In addition to the above instance of an *Oak's* early arriving to considerable value, Mr. Herbert has given me the following measurement of six *Oak* taken indiscriminately (except the last,) out of very many more of the same size, growing on his demesne from acorns sown in the year 1760—they were measured in this year 1794, at 5 feet from the ground, being in their thirty-fourth year.

No.		Feet.		In.
1	—	3	—	0
2	—	3	—	2
3	—	3	—	2½
4	—	3	—	7
5	—	3	—	8
6	—	4	—	11
		Y		

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\* Vide Marshall's Minutes of Agriculture and Planting in the midland shires of England. Miq. 146.

He favoured me at the same time with the measurement of six *Wyche* or native *Irish Elm*, produced by layers from the stool of a tree felled for that purpose in 1766, consequently about 26 years growth at the very most.

No.		Feet.		In.	
1	—	3	—	11	} at five feet from the ground.
2	—	4	—	0	
3	—	4	—	2	
4	—	4	—	5	
5	—	4	—	9	
6	—	5	—	1	at 3 feet where it forked,

and produced 2 branches each 3 feet 2 inches round;—though these also (except the last) were taken indiscriminately out of many more of the same age and dimensions, yet we find that three out of the six would cut into *twelve-inch plank* at 26 years standing from the transplanted layer.

At *Bellevue* in the county of Galway, the seat of Walter Laurence, Esq; a great improver and extensive planter, the *Spanish Chestnuts* afford many remarkable instances of quick growth; they had been, when measured in 1790, 27 years transplanted, and were about 5 years old when removed,

removed, consequently their age did not exceed 32 years from the nut, yet many of them were then 5 feet in circumference at a foot from the ground, and 4 feet 8 inches at 6 feet from the lower measurement, which last dimension continued with little diminution for 10 feet more; so that on an average of the different measurements, they would have afforded plank of 16 feet in length and full 12 inches broad, and some considerably broader, as one tree was found to measure 7 feet round at a foot from the ground, or 2 feet 4 inches diameter. This fine growth is in *strong loam* over a lime-stone rock, and offers a great inducement indeed, amongst many others, in favour of planting this incomparable tree; which for beauty of foliage, great bulk, valuable quality of timber, and longevity, is second to the *Oak* alone, whilst in quickness of growth we see that in many soils, and those far from rich, it exceeds almost every other species of timber tree.

The plantations of *Carrickglass*, in the county of Longford, the seat of Sir William Gleadowe



Newcomen, Bart. have in general the appearance of as great vigour and *quick growth*, as any I have ever seen, considering that in their wide extent the soil must often vary, but the trees have been so judiciously adapted, that *all* are in a flourishing state ; if there is a difference in their growth it seems to be in favour of the *Oak*, of which their great annual shoots and polished bark give evident proof—after this character of the soil of *Carrickglass* as particularly suited to trees, we might naturally suppose that it produced the *Larch*; (a part of which sawed off was some time since sent into the Repository of the Dublin Society, by Sir William, as a specimen of the great growth of that species of tree) but *that* came from his grounds at *Killester*, about two miles from Dublin. It is indeed well worth notice, as having arrived to the measurement of 1 foot 8 inches *diameter* within 19 years, whilst the *Spruce-fir*, a part of which is placed beside the piece of *Larch*, appears to have taken 25 years from the seed to attain a *diameter* of 1 foot 7 inches ; but it should be observed that the *Larch* has been cut quite low with a saw into a  
part

part of the *root*, whilst the *Spruce-fir* was felled first with an *axe*, and then a piece cut off with a *saw* a foot at least above the ground, close to which it measured 6 feet round ; we must also take notice that it had been transplanted when full *seven* feet high, a circumstance which in general, gives a great check to the growth of every species of *Fir*.

This tree, which before its top was broken off by a violent storm promised in time to be one of the most beautiful of its kind in the kingdom, grew at *Avondale* before-mentioned, in the county of Wicklow—it was that feminal variety of the *Spruce* which has been denominated the long-coned Cornish *Fir* ; the cones being frequently near a foot long, it had been transplanted into a little lawn in a natural wood, edged on one side with old *Oak*, and on the other with remarkable fine *Weymouth Pine*.—Observing its luxuriant growth, and a tendency to *weeping* in its branches like the *Willow*, I followed a practice which I recollected to have been mentioned to me some years since by the late Mr. Shanley,

(whose

(whose skill and natural taste in ornamental gardening had early attracted my notice;) viz. cutting away by degrees *all* the branches for about 7 feet high, and above that every *second* tire; by which, as the lateral shoots-encrease in weight, they fall into the space formerly occupied by the branches which were immediately below them; this, in a vigorous tree, adds much to the picturesque appearance, and is doubly pleasing as connected with the idea of perfect health and luxuriant growth; such was the state of this beautiful tree at the time of the storm, that the lower branches which covered a considerable space on every side, nearly touched the ground at their extremities, though they grew from the stem at the height of 7 feet. It is somewhat remarkable, that none of the Weymouth *Pine* though as tall as the *Spruce*, and standing on higher ground and more exposed to the storm, suffered from it in the least.

The lovers of planting will pardon me for this digression on a favourite tree, and will be pleased to hear that the loss has long since been repaired,

repaired, by the fine growth of numbers of its contemporaries.

In 1793, I felled a *Scots-fir*, one of *fifty* which had been brought to the plantation from a distance of *three* miles in a *one-horse* cart, and as they were planted but 19 years, the tree I felled could not have exceeded *27 years* at most from the *seed*, and I rather think it could not have been so old as 8 years at the time of transplanting; there was about a foot of the butt end wasted in felling and sawing off the rough part after the axe, yet it measured fully 21 inches *diameter* at an average of three several measurements; it was sawed into two lengths of plank, and produced twelve in all, worth at least 20 *shillings* the dozen; the value of the remainder of the tree more than paid the expence of felling and manufacturing the boards.

Every planter will allow, that such *Fir* should by no means stand at a greater distance than 9 feet from each other; and the author of the treatise on the *Pinus Sylvestris*, would not allow them *half* so much, yet even at this distance, and  
allowing

allowing two feet to each tree for the space its stem would actually occupy, we shall find that 640 such trees will stand on an Irish acre: Now, supposing them a full third *worse* than that which I have last mentioned, and to remain *three years* longer on the ground, we shall still have a produce of 426*l.* in 30 years, or upwards of 14*l. per annum* for the *Acre*. I am well aware of the fallacy of drawing general conclusions from particular instances, and will readily allow, that on a very extensive scale some parts might fail of equal success; or if not, the very *plenty so produced*, would considerably lessen the value of the *production*; but in the present general state of the kingdom with respect to *timber*, we have little to apprehend from a *redundancy* for many years to come; and in the mean time, it would be but prudent to provide against the difficulties which we are often threatened with, in procuring timber from the northern countries of Europe, even if the attempt was not supported by such evident proofs of great and almost *immediate profit*.

I find

I find that *Weymouth Pine* planted now about 23 years, from the seed-bed, measure from 4 feet 6 inches to 3 feet, at one foot from the ground, and from 3 feet 6 inches to 2 feet 8 inches in circumference at five feet high, and are in general above 50 feet in height.--I have numbers of *Oak* transplanted from a *Dublin* seed-bed in May 1780, now 14 years growth, which measure at a foot from the ground, from one foot 10 inches to one foot 6 inches in circumference, and from one foot 3 inches to one foot round, at 4 feet above the latter measurement; but the tree, which of all others promises to make the greatest progress on the generality of our high grounds, is the *Beech*; several at *Avondale*, which were transplanted within 30 years on a swelling ground, at that time much exposed to storm, are now from 7 feet 6 inches, to 6 feet 6 inches at a foot from the ground, and continue nearly of that size from 8 to 20 feet in height: of two which were planted in a richer soil near the river, and are now just fifty-four years old from the

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maft,

maft, one meafures 9 feet round, and the other 9 feet 6 inches.

This muft be allowed to be a very great growth in the time, and when we add to this perfection of the *Beech*, that there appears no limit to its *duration*, as there are some Beech trees now in England which are fupposed to have exifted before the Norman conquest, yet ftill frefh and vigorous, even when the trunk has exceeded ten yards in circumference, as I recollect a tree, which I meafured in the great park of *Windfor*, to have done; and that whilst the maft in our woods is the fineft food poffible for fwine, the timber is daily coming more and more into ufe, as answering in general every purpofe of the *Afb*, and found for fome to be fuperior; being now ufed as we are informed in thofe very fatisfactory letters of Thomas South, of Baffington, Efq. to the *Bath and Weft of England Society*, for *planking* fuch parts of the bottoms of fhips as are constantly *under water*, and for fluices and fhots, &c.

in

in mill work, we shall find no tree on the whole, that will more fully answer the Planter's expectation; as uniting in itself many of those qualities, for which individually, other trees are considered valuable.—I would not wish however, to devote the whole of an enclosure to this tree, great a favourite as it is; but taking advantage of its hardy nature, and tendency to preserve its leaves during a great part of the severest winters, I would cover with it a considerable portion of my high grounds, and allot the space within the influence of this shelter, to the production of *Oak*, *Spanish Chestnut*, *Weymouth Pine*, and such other valuable trees, as we find from many instances, are not as well qualified as the former, to bear the severity of an exposed situation, particularly in the early part of their growth.



The following are the measurements of five *Oak* taken from amongst numbers of the same age and dimensions, growing from the old stools of trees felled in one of my woods, 33 years this May, 1794:

No.	Ft.	In.		Ft.	In.	
1	3	4	} at 1 foot from the ground.	2	9	} at 5 feet from the ground.
2	3	4		3	0	
3	3	9		3	4	
4	4	0		3	7	
5	4	10	—	4	0	

Considerable as these dimensions must appear for their age, \* to those who are apt to look on coppiced

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\* I find by an accurate measurement of the *Luccomb Oak*, which a friend of mine was so good to make at my desire, within these few months, that at this time, viz. in its twenty-seventh year's growth, its circumference is 4 feet 6½ inches at four feet from the ground, six feet at the place of grafting, and its height 60 feet: the fairness of its growth, the verdure and long continuance of its leaves, are sufficient motives no doubt, to induce every Planter to wish for some of those beautiful trees in his demesne; but the goodness of the *timber* yet remains

coppiced woods, as little more than a collection of broomsticks, (which in the way they are usually managed, I allow, they but too much resemble,)

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remains to be *proved*, and from the appearance of its *bark* I fear it too much resembles what has been generally imported from America, to answer the wishes of the manufacturer, in any comparison with the Irish or English; as I have seen *foreign bark* nearly two inches in thickness in the whole, with scarcely a quarter of an inch applicable to the purposes of *tanning*.

This should make us cautious of introducing too many of the foreign varieties of Oak into such plantations as are made with a view to future profit—there are many of them indeed very beautiful; I think none more so, than the *Ragnal*, *Quercus Xeris* or *Turkey Oak*, whose deep indented leaves, and their particular manner of growing in groupes on the branches, have certainly a grace and richness peculiar to themselves.

This tree is no where in greater beauty than at *Collon*, in the county of Lowth, the seat of the Speaker of the House of Commons, who thro' his very extensive plantations, has found means of attracting the attention of the lovers of planting every moment, by the judicious arrangement of such an inexhaustible variety and scientific col-

semble,) I have reason to expect, that their measurement, at the expiration of the next five years, will still more exceed the usual dimensions of trees of the same age; as there was not that attention paid to this wood for the first fifteen years after the fall, which I have since thought necessary, and have so strongly recommended in the preceding section. † These plants

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collection of trees and plants, as are scarcely to be equalled unless in the royal gardens of *Kew*.

The *Turner Oak* has great merit in continuing in full leaf and luxuriant freshness through the greater part of winter; but on the whole, we shall find *none*, that in the end will repay the labour of either the *profitable* or *picturesque* Planter so well, as that which has been the long admired *native* of the soil.

† The following accurate valuation of two pieces of coppice wood in my neighbourhood, on both of which *reserves* had been left in the manner I have advised, came to me too late for insertion in its proper place; but as I have received it from a very well informed gentleman, who has dealt largely in woods, and find it contains such important

plants but lately finged out, are now beginning to shew the great advantage of being allowed a sufficient space for their growth, and a free circulation

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important information on the subject, as strongly corroborates what I have before advanced, I shall take the liberty of inserting it here,

Value of one acre of coppice wood, in which there are now standing one hundred Oak reserves, of 56 years growth ;

£. s. d.

The reserves at £1 : 5s. each on an average, 125 0 0

The younger growth of the coppice, now in its 34th year very thin, but the poles good, as remaining after many of an inferior sort had been taken away at different times,

50 0 0

Total value of the acre, — £175 0 0

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Or five pounds per annum, for 35 years, viz. since the last fall.

Value

We might naturally attribute the size of the above to the nature of the soil, which seems peculiarly adapted to the *Aß*, but that its dimensions are fully equalled by another *Aß* tree in the same demesne, though of a still *younger* standing, and growing in a *dry* soil, on a high situation.

This in the year 1771, could not have exceeded six inches in circumference, having at that time narrowly escaped being cut down by a labourer for the handle of his shovel; it now measures in its twenty-third year from that date, seven feet eight inches round at a foot high, five feet eight inches at five feet, continues nearly of that size for *several* feet more, and then branches into a very large head.

On deducting six inches, the greatest circumference of this tree in 1771, from the average of its present dimensions, viz. eighty inches, we shall have seventy-four inches for  
twenty-

twenty-three years growth, or nearly three inches and a quarter for every year\*.

It would be superfluous to add more to the foregoing proofs, on what a sure foundation the

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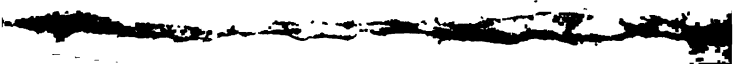
Planter

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\* On comparing these several measurements with some which are communicated to the *Bath and West of England Society*, by a very ingenious correspondent in *Norfolk*, we shall have ample reason to be satisfied with the *growth* of our timber in this kingdom.

We find by his account, that *Black Poplar* planted in 1746, measured after forty-four years growth, viz. in 1790, but six feet six inches round at five feet from the ground.—Another sort of *Poplar* or *Abele*, planted in large truncheons in 1760, after *thirty* years standing, were not quite six feet in circumference.

*Ash* planted at eight feet high in 1760, were but from three feet eight inches to four feet round, and *Oak* which were transplanted in 1764, and were then about three feet high, measured at five feet from the ground, from one foot six inches to two feet four inches at the very most, which on an average, does not amount to two-thirds of the growth of my *Oak* before mentioned, tho' nearly of the same age.



*Planter* may build the most sanguine expectations of success—I could adduce many others of a similar nature, and on the most respectable authority; but as I had premised in the outset of this little work, that I would offer few or none, which had not *grown*, in some measure under my immediate *observation*, I have chosen to confine myself almost literally to my own grounds.

I flatter myself however, that the enquiry I have set on foot on the growth of timber, and the more perfect management of woods, will be followed up by others, who, with an equal love of trees, and perhaps greater experience, may possess more leisure time than I had, to devote to this equally useful and interesting pursuit, the avowed favourite indeed of some of the greatest and wisest of every *clime* and *age*; and yet of none more perhaps, than the *present*.

The improvements by *plantation* which have been made in this kingdom and in England,  
and

and still more, as I am credibly informed, in *Scotland*, within these few years, afford manifest proofs of the liberality and spirit of the individuals who have undertaken them, as they will do infinite credit hereafter to the age in which they were carried into execution.

Nor is this spirit of improvement confined to individuals; the exertions of the several *societies* for the advancement of agriculture, manufactures and fine arts, have been attended with every possible success which could have been hoped for, from their respective institutions.—In aid of the Society for the Encouragement of Arts, &c. in London, we find, that a distinct Board of Agriculture has been formed under the highest patronage; together with a society for the improvement of British wool; and commissioners have been appointed to examine into the state of the woods and forests belonging to the Crown, who appear by their conduct, to have very much at heart, a faithful discharge of the duties of their office.

Many



Many other communities for the advancement of the science of rural œconomics, arts and manufactures, have been set on foot in different parts of the kingdom; those of *Bath* and *Manchester* have not only gained singular reputation by their ingenious publications, but have already proved of the greatest utility to the cause in which they have engaged.

We have as yet formed few societies in this kingdom as correspondent with that of DUBLIN, but the *parent* society has not been *idle*.

The following extracts from their proceedings, will not only evince the truth of this assertion, but will serve to mark the *progressive* state of improvement which *Ireland* enjoyed for some years past, till the unhappy situation of affairs on the continent, and some disagreeable circumstances in consequence at home, produced a sort of alarm thro' the kingdom, from which tho' happily much recovered, we cannot as yet say we are perfectly free.

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B O U N T I E S

PAID BY THE

DUBLIN SOCIETY,

From the YEAR 1783, to the YEAR 1791,

*On the Propagation and Sale of*

T I M B E R   T R E E S ,

*And Number of Trees Sold.*

	PROPAGATED and Sold.		BOUNTY paid on the Sale.		
			£.	s.	d.
In 1784	65,158	—	50	0	0
1785	1,205,000	—	185	0	0
1786	1,506,553	—	217	14	0
1789	1,359,280	—	241	7	0
1790	3,763,500	—	526	10	0

It also appears from the minutes of the Society, that in the year 1784, the total number of acres under every improvement, which  
was

was at that time the object of their bounty, amounted to ninety only, and that the sum of money expended in various agricultural premiums in that year, did not not exceed *four hundred and sixty-eight pounds.*

In 1785, The number of acres, for the  
improvement of which any  
Claims were made, amount-  
ed to        -        -        272

Money expended in bounties  
and premiums,        -        £1052

In 1786, Number of acres claimed for,  
3183

Money expended in bounties  
and premiums,        -        £3430

In 1787, Number of acres claimed for,  
5113

Money expended by the society  
in consequence,        -        £4168

And

And in 1788, there were Claimants for  
the improvement of 9664  
acres,

For which the Society paid  
in bounties and premiums

£4876

I have already mentioned the advantages arising from the act of parliament, which confers upon the tenant a power of fencing up for his own use, under certain restrictions, such tracts of woodland on his farm as have been left by the landlord for a certain number of years exposed to cattle; the *Society* have added a further encouragement to tenants holding on determinable leases, by granting a bounty of forty shillings on every acre thus fenced up for coppice wood; and it is worth observing, that in addition to the great number of trees which must be annually planted on smaller enclosures, those which have been put out by persons claiming a bounty for plantations not less than ten acres in extent, have amounted on an average, for some years past, to five hundred thousand in each year.

B b

For

For some years indeed previous to 1784, the Dublin Society had turned their attention so much to *Arts and Manufactures*, as in a great measure to lose sight of the principal object of their formation; but the above statement of facts fully proves, that since that period, their exertions in the advancement of Agriculture and Planting have been so strenuous, and attended with such success, that this Society as an Institution for the improvement of Husbandry, may with great justice claim the distinction not only of being the *earliest* of its kind in Europe, but perhaps at this time the most considerable and comprehensive in its views.

Amongst many other instances of liberal expenditure to promote this great national object, a Repository has been provided for the reception of Specimens of every useful Implement of Agriculture, which can be procured from England, Flanders, or any other country, which makes the least pretensions to good Husbandry. This excellent establishment is daily improving under the direction of the Committee of Agriculture chosen by ballot from the whole Society—these  
Gentlemen

Gentlemen\* have been neither sparing of application or expence to render the collection of Implements as perfect as possible; they have also carried their attention to the other useful Arts, by the addition of a large Apartment furnished with *Models* of the best constructed Machines, in various branches of Manufactures, &c; they have formed a considerable Library of valuable Books, connected in general with all the Arts and Sciences, but more particularly with *Rural æconomicks*, *Botany* and *Natural History*.

B b 2

A new

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\* PRESENT MEMBERS,

Rt. Hon. John Foster, Speaker of H. Commons,  
 Morgan Crofton, Esq.  
 Thomas Burgh, Esq.  
 John Leigh, Esq.  
 Arthur Maguire, Esq.  
 Lodge Morres, Esq.  
 Thomas Fitzgerald, Esq.  
 Samuel Hayes, Esq.  
 Cornelius Bolton, Esq.  
 Nicholas Westby, Esq.  
 Richard Reynell, Esq.  
 Right Rev. the Bishop of Kilmore.  
 Major General Eustace.  
 Sir William Gleadowe Newcomen, Bart.  
 Sir Lucius O'Brien, Bart.

A new range of buildings are now constructing designed partly for the reception of a Cabinet of Mineralogy\*, and partly for more convenient School-rooms than the Society now possess, for the purpose of giving Instructions gratis in *Figure Drawing, Ornament and Architecture*, to such youths as manifest an early genius for the Arts, but whose parents are not in sufficient circumstances to afford them instruction adequate to their wishes.

A room will also be adapted to the purpose of giving practical Lectures on Chymistry, and a considerable sum of money is appropriated for providing and maintaining a Garden for the Improvement of the Science of *Botany* and *Planting*.

When

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\* This Cabinet, which is well known on the Continent by the name of the Leskean Museum, and has been mentioned in several publications, in terms of the highest approbation, was purchased for the Dublin Society in the year 1792, for £1250. by that excellent Mineralogist Richard Kirwan, Esq. under whose inspection the collection is to be arranged.

When these arrangements are completed, which may be expected to take place before the end of the year 1794, we may venture to say, that the general Establishment will not only exceed any Institution of a similar nature which has hitherto been carried into execution, but will nearly equal an *Ideal Scheme* formed upon the like plan by the patriotic SULLY, and offered by that judicious and enterprising Minister to the consideration of HENRY the Fourth of France, as worthy of being adopted by that great Monarch, so indefatigable in every pursuit, which could promote the welfare and happiness of his People.

T H E   E N D .







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bage—Cabbages—Parsnips—Root of Scarcity.

*The Culture of Vegetables, properly Articles of Commerce.*—Flax and

Hemp—Rape or Cole Seed—Coriander Seed—Canary Seed—  
Woad—Hops—Fruit—Timber Trees.

*The best Method of Breeding, Rearing, and Feeding Cattle, Hogs,*

and Poultry—Management of Bees—Dairy—Fruit Liquors—A  
million lost annually by employing Horses instead of Oxen at  
Farm Work—Kinds of Horses and Method of keeping—Hornless  
Breed of Black Cattle desirable—Rearing and fattening Hogs—  
Rabbits—Poultry—Bees—Dairy—1. To have Cows of a good  
Quality. 2. To make the Cows yield a large Quantity of Milk.  
3. Composition for preserving Butter—Making different Kinds  
of Cheese—Making of Fruit Liquors, Cyder and Perry—Manage-  
ment of the Fruit—Maturing—Bottling—Mannures and the Me-  
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